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The Effectiveness of the Response to Intervention Plan on Third Grade At-Risk Readers in a  
Rural School District Measured by the Mississippi Curriculum Test, Second Edition (MCT2)

A Dissertation

Submitted in Partial Fulfillment of the Requirements for the

Doctor of Education Degree

The University of Mississippi

by

Tamisha Estes-Lipford

December 2011



## ABSTRACT

The purpose of this study was to examine the effectiveness of a response to intervention plan program on students' reading achievement scores on the Mississippi Curriculum Test, Second Edition (MCT2). The study consisted of 64 students who had complete MCT2 scores for both the 2009-10 and 2010-11 school years. The control group consisted of 58 students who received only teacher-directed. The intervention group consisted of 6 students who were exposed to teacher-directed instruction and the MAP Program.

Results revealed that the MAP Program did not help improve students' reading achievement test scores. In comparing the scores of students who received the MAP Program instruction versus those who did not, data revealed that there was no significant difference between Group A and Group B on the MCT2 2010-2011 reading achievement test. The study explored gender differences in reading achievement and found no significant differences between males and females on the 2010-2011 MCT2 reading achievement tests. Additionally, males and females who received the MAP Program instruction did not differ in their reading achievement test scores. Finally, the study explored gender differences in gains in reading achievement for students receiving the MAP Program instruction. Females performed better on the current year than they did the previous year by approximately 2 points, while males showed no improvement in the reading achievement test scores. However, the difference in gains was not statistically significant. Small sample size may have contributed to lack of statistical findings, even in the presence of substantive differences in scores.

## DEDICATION

I dedicate this dissertation to my loving and supportive husband, Kevin Lipford. Thank you for your fervent prayers, patience, and faith. Thank you for believing in me and encouraging me continuously to reach for the stars in my pursuit toward academic excellence. To my caring and remarkable parents, Clarence and Geneva Estes. Thank you for being such exemplary role models and teaching me to never give up on reaching my dreams and goals no matter how great the challenge. For my inspirational and talented brother, Teddy and my sister-in-law, Rshan. Thank you for your endless support throughout my academic journey and for sharing with me the importance of “Chillaxin” and “Celebrating Life” each day I am blessed to be on this earth.

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## **CHAPTER 1**

### **INTRODUCTION**

In today's rural classroom settings, there is an ongoing debate about the importance and need to improve reading achievement in the rural school systems. According to a study conducted by the American Educational Research Association (2011), a student who cannot read on grade level by third grade is four times less likely to graduate by age 19 than a child who does not read proficiently by that time. There is a need to respond to the problems of at-risk elementary students who are reading below grade level. This concern reaches far beyond the walls of schools; there is unrest among school stakeholders for strengthening reading achievement in America's rural schools. Scheffel, Shroyer, and Strogan (2003) mention that a sense of urgency is evident among national leaders and educational experts for educators to employ research-based practices to help all children become proficient readers during the early years, specifically, as research recommends, before they complete third grade.

The U.S. Department of Education (2002a) characterizes teaching young children to read as "the most critical educational priority facing this country" (p.1). The ability to read proficiently is important to the academic success of students. Since reading is essential to one's academic success, former President George W. Bush worked to improve the reading ability of American school children through the enactment of the No Child Left Behind Act on January 8, 2002. Currently, the issue with improving student's ability to read proficiently and on grade level is very prevalent within many rural schools in America.

According to Snow, Burns, and Griffin (1998), public school systems in America have begun to take a closer, more critical look at reading instruction and ways to prevent long term reading problems. “Because reading serves as the major learning pathway to other subject areas, children who fall behind in reading are at-risk of falling behind in other subject areas and are at substantial risk for failure in school” (Downing, Williams, & Holden, 2009, p. 270). Hiebert and Taylor (2000) note that both the federal government, through NCLB, and most state governments are exerting pressure for the implementation of research-proven programs that are effective with helping students at-risk for reading failure find success early on in reading. “The most effective and efficient methods for addressing reading difficulties begins with early prevention and intervention efforts” (Torgesen, 1998, p. 32).

Early prevention and intervention is a focal point of Response to Intervention reading programs in reading development. Without early prevention and intervention in reading, at-risk readers in America’s rural school settings will continue to get left behind. Hiebert and Taylor (2000) contend that a well-designed, focused, and systematic reading instructional program can lead to higher levels of achievement among those students who are identified as being at-risk for reading failure and who typically do not do well with status quo instruction. According to Clay (1993), Johnston, Invernizzi, & Joel (1998), Morris (1999), and Santa (1999), early reading intervention programs vary the most is in the structure of the instructional framework. The instructional framework could require the use of a teacher, teacher’s assistant, volunteer, or a pre-packed program. In recent years, rural school districts are choosing to utilize teacher directed instruction to resolve and remediate the literacy deficiencies of at-risk readers.

In a study conducted by Slavin, Lake, Davis, and Madden (2009), researchers found that qualified teachers were effective for assisting at-risk readers with improving their reading

deficiencies and lowering the number of students referred for remediation or special education. Ediger (2007) defined an instructional framework as a set of ideas or principles which serve as an outline for later developing more complete lessons for reading instruction. The No Child Left Behind legislation supports the notion of helping low achieving students to strengthen their literacy development through the use of instructional frameworks. Some schools are using instructional frameworks and qualified teachers to ensure that at-risk low performing students achieve at higher levels. If student's ability to read at high levels correlates with high academic success, it is imperative for rural school districts to determine if the use of direct instruction and qualified teachers actually benefits the literacy development of students that are at-risk for reading failure.

### **Statement of the Problem**

A thorough analysis of the reading performance data collected within rural schools shows that large populations of students are reading below grade level. The ability to read proficiently is essential to a student's academic success. If students are not capable of reading on grade level by third grade, they will struggle to excel and compete with their peers academically. "Millions of American children reach fourth grade without learning to read proficiently" (Casey Foundation, 2010, p. 27). A student's inability to read on grade level impacts their performance in other subjects which may inhibit their overall success in school. "In a recent study, researchers found that students with poor reading skills were more likely than competent readers to experience anxiety disorders, drop out of school, and even commit suicide" (Daniel et al., 2006, p. 508). For students that do not read on grade level, challenges such as stress, frustration, and issues with self-esteem may occur. "Children's resulting frustration and their habit of failure require educators to address such factors as self-esteem, self-efficacy (i.e., attributing success to

one's efforts), attitudes toward learning and school, and wellness (physical and emotional) while working to build the reading skills of at-risk readers" (Joseph & Schisler, 2006, p. 13).

According to Carbo (2010), if at-risk readers remain in school the struggle to read on or above grade level takes a devastating emotional toll on them and the teacher. So, teachers must devise a plan to safeguard against instances such as this from occurring.

To remediate the literacy deficiencies that plague many of today's school-aged children, a Response to Intervention reading program must be designed that is individualized to meet the varied needs of students that read below grade level. Effective Response to Intervention reading programs should minimize the number of students experiencing failure in reading, but also should be designed to help students attain reading proficiency or better on standardized assessments and improve their academic performance within the instructional environment. According to Justice (2006), Response to Intervention reading programs that are delivered are considered preventive and are aimed at lowering a student's risk for developing later reading difficulty by building skills that are causally associated with skilled reading success. Morris and Slavin (2003) suggest that these programs are designed to help the beginning, struggling reader by providing them with frequent and intensive one-to-one instruction. For students to succeed academically, it is imperative that an effective Response to Intervention plan be put in place to help them learn to read and avoid being left behind their peers.

### **Purpose Statement**

Taylor, Pearson, Clark, & Walpole (1999) assert that programs don't teach, teachers do and a teacher's understanding of and commitment to instructional strategies are critical. To ensure that students are capable of conquering their reading deficiencies, the federal government has allocated over a billion dollars into reading resources and tools to ensure that all students are

reading on grade level by third grade. The purpose of this research study was to investigate whether teacher directed instruction alone or teacher directed instruction coupled with the use of a computer based adaptive assessment effect third grade students reading achievement on the state standardized reading assessment.

### **Research Questions**

This study was designed to determine whether a Response to Intervention reading program that uses directed teacher instruction and teacher directed instruction plus a computer based adaptive assessment effect at-risk readers reading achievement as measured by the state's standardized assessment. Moment-by-moment progress monitoring of student's progress is essential to improve the literacy deficiencies of at-risk readers and teachers are essential in the reading development of at-risk readers. According to Lose (2007), teachers, not programs, teach children to read. To determine the significance of a teacher's role in reading intervention and computer based adaptive assessments in helping at-risk readers attain reading proficiency on the state assessment; this study was designed to answer the following research questions:

1. Does the MAP Program significantly affect the reading achievement test scores of at-risk students?
2. Controlling for prior achievement, is there a significant difference between the reading achievement test scores of third grade students based on reading instructional methods?
3. Are there gender differences in reading achievement test scores?
4. Does the MAP Program have a differential affect on the reading achievement test scores of at-risk students based on gender? If so, is the MAP Program more beneficial for males or females?

5. Does the MAP Program have a differential affect in the improvement of the reading achievement test scores of at-risk students based on gender? If so, is the MAP Program more beneficial for males or females?

## **Hypothesis**

This study consisted of the following five sets of hypotheses:

H<sub>01</sub>: There is no significant difference between the means of the 2009-2010 vs. 2010-2011 reading achievement test scores of at-risk students due to the MAP Program (The 2009-2010 reading achievement test scores were compared to the 2010-2011 reading achievement test scores of the at-risk students (Tiers 2 and 3) using a paired samples t-test.).

H<sub>1</sub>: There is a significant difference between the means of the 2009-2010 vs. 2010-2011 reading achievement test scores of at-risk students due to the MAP Program.

H<sub>02</sub>: There is no significant evidence of a significant difference between the reading achievement scores of third grade students based on the instructional method (The 2010-2011 reading achievement test scores of Tier 1 (regular instruction) vs. Tiers 2 and 3 (MAP instruction) students were compared and the 2009-10 reading achievement test scores were used as the control. An ANCOVA test was used for this.).

H<sub>2</sub>: There is significant evidence of a significant difference between the reading achievement scores of third grade students based on the instructional method.

H<sub>03</sub>: There is no significant difference between male and female student's reading achievement test scores (The 2010-2011 reading achievement test scores of all third

grade male students versus female students were compared using an independent samples t-test.).

H<sub>3</sub>: There is a significant difference between male and female student's reading achievement test scores.

H<sub>04</sub>: There is not a significant difference on the affect of the MAP Program on reading achievement tests scores of at-risk students based on gender (The 2010-2011 MCT2 reading achievement test scores of third grade male students versus third grade female students in Group B were compared using an independent samples t-test.).

H<sub>4</sub>: There is a significant difference on the affect of the MAP Program on reading achievements test scores of at-risk students based on gender.

H<sub>05</sub>: There is no significant difference in the affect of the MAP Program on improving the reading achievement test scores of at-risk students based on gender. (The 2010-2011 reading achievement test score change of third grade male students versus third grade female students in Group B was examined using an independent samples t-test.).

H<sub>5</sub>: There is a significant difference in the affect the MAP Program had on improving the reading achievement test scores of at-risk students based on gender.

### **Significance of the Study**

This research study is important and worthwhile to conduct because there are a large number of students reading below grade level within rural school settings. If students are not able to read well by the time they leave third grade, they will struggle to succeed in the fourth grade and beyond. Many rural students should be capable of reading proficiently or better due to



their contact with print and the quality of the reading instruction to which they are exposed; however, research is showing that many at-risk readers are not capable of meeting the grade level reading expectations.

In addressing the issue of poor literacy development in at-risk readers, the use of teachers is becoming a common choice. Lose (2007) points out that a skilled responsive teacher will observe the different paths taken by individual children and design instruction and interventions that supports their literacy learning progress. “A child who has been provided with the intervention he or she needs will respond successfully, making progress daily and learning how to lift his or her own literacy performance with skilled support from a knowledgeable teacher” (Clay, 2005b, p. 1). Though it is becoming a common choice to utilize teachers to provide reading instruction to at-risk readers, there is still more data needed to show if they are truly beneficial to the literacy development of at-risk readers in rural schools.

There are many teachers that have graduated from teacher preparation programs lacking the knowledge and skills to provide explicit reading instruction to at-risk readers. Moreover, there are teachers in today’s educational setting that are not being provided with information and skills necessary to ensure that all children are reading by third grade. This is possibly an indicator of why students are not showing mastery in reading. Therefore, stakeholders within the rural school community that specialize in the area of reading need to be knowledgeable about the implementation of reading instruction and the Response to Intervention reading program they are required to implement. Not only is it imperative for teachers and stakeholders to know how to implement the reading instruction and intervention program for at-risk readers in rural schools, but they also must be aware of how the use of direct instruction by teachers impact at-risk readers reading outcomes on the state assessment.

Today's educational system encourages educators to implement instruction and teaching practices that will not leave any child behind, this study is also significant because a student's failure in reading could lead to student retention. Student retention occurs due to high stress levels, frustration, anger, defeatism, low self-esteem, lack of motivation, and poor academic progress. All of these variables coupled together can lead to the retention of students that are struggling to be successful along their academic journey. It is imperative for educational stakeholders that specialize in reading to do what is necessary to determine through research how to prevent reading failure, retention, and improve student's academic performance. This will enable rural school districts to see growth within their student population and make adequate yearly progress.

This study is regarded as significant because it was carried out to show if the use of a Response to Intervention reading program that utilizes teacher directed instruction and teacher directed instruction plus a computer based adaptive assessment leads to a gain in students reading achievement performance on the state's standardized literacy examination.

### **Limitations**

1. The number of at-risk readers that participate in the Response to Intervention reading program may have a lack of motivation, varied learning styles, poor behavior issues, poor socioeconomic background, lack of parental involvement, and lack support at home which may attribute to poor literacy development.
2. The number of at-risk readers that participate in the Response to Intervention reading program varying length of exposure to literacy experiences.

3. There may be a lack of breadth and depth of different teacher background knowledge and content knowledge on the effective implementation of the Response to Intervention reading program.
4. The rural school consists of a small population and sample due to the existence of a transient community.

### **Delimitations**

1. This study was restricted to third grade.
2. The study was confined to one public elementary school from a school district in North Mississippi.
3. MCT2 reading scores included in the study were limited to the students that were enrolled in the third grade during the 2009-2010 school year and fourth grade during the 2010-2011 school years in order to compute the gain score on the MCT2.

### **Terms and Definitions**

For the purpose of this study, the following terms and definitions were used to describe the background of the study:

At-Risk: An outcome for a student who shows an early indication of unsatisfactory academic performance (Campbell & Ramsey, 1994).

Differentiated Instruction: The intent of differentiating instruction is to maximize each student's growth and individual success while meeting the academic needs and learning styles of each student and assisting in the learning process (Hall, 2002).

Direct Reading Instruction: For purposes of the study, direct reading instruction is defined as explicit, intense, systematic, and comprehensive instruction designed to build word reading skills (Bear, Invernezzi, Templeton, & Johnston, 2004).

Instructional Intervention: This is any action of additional instruction given to struggling students which differs from the current instruction in the student's regular academic program (Foorman & Torgesen, 2001).

Individuals with Disabilities Education Act (IDEA): IDEA is a law ensuring services to children with disabilities throughout the nation. IDEA governs how states and public agencies provide early intervention, special education and related services to more than 6.5 million eligible infants, toddlers, children and youth with disabilities (U.S. Department of Education, 1997).

Measure of Academic Assessment (MAP): The MAP Computerized Adaptive Assessments are tools created and used by teachers that provide detailed, actionable data about where each child is on their unique learning path. In order to meet the needs of each student, the assessment identifies where the student is and what the student is ready to learn. (Northwest Evaluation Association, 2010).

Mississippi Curriculum Test (MCT2): A standardized achievement administered to second through eighth grade students in Mississippi in order to comply with No Child Left Behind act and increase accountability standards (Mississippi Department of Education, 2008).

Proficiency Levels: Achievement levels that describe how well students have mastered the state frameworks in reading, language, and mathematics. In Mississippi the four proficiency levels are advanced, proficient, basic, and minimal. The goal is for all students to score in the advanced or proficient ranges.

Regular Elementary Teacher: A certified teacher who holds at least a bachelor degree of grades kindergarten through eighth grade and teaches core academic subject area information and delivers instruction in a reading intervention program.

Response to Intervention (RtI): This approach is an evidenced-based initiative that seeks to redefine how reading disabilities are identified and addressed within the public school system (Justice, 2006).

Rural Schools: According to the U.S. Department of Education's National center for Educational Statistics, a rural school is defined as a school that does not lie inside an urbanized area or urban cluster (National Center for Education Statistics, 2007).

School Personnel: Regular education teachers, special education teachers, administrators, school psychologist/psychometrist, guidance counselors, and other certified employees who serve on the Teacher Support Team.

Site Coordinator: The person who oversees and monitors the implementation of the reading tutoring session onsite, creates profiles of students, and coordinates the prioritization and selection process of students based on their profiles.

Student Progress Monitoring: An assessment technique required by RtI regulations. Teachers administer quick assessment (1-5 minutes) frequently (weekly) to gauge the improvement of a student. The assessment provides information about the student's rate of learning and the effectiveness of a particular intervention (National Center of Student Progress Monitoring, 2007).

Scientific Researched Based Instruction: This form of instruction refers to specific curriculum and educational interventions that have been proven to be effective-that is, the research has been reported in scientific, peer-reviewed journals (National Association of School Psychologists, 2006).

Teacher Support Team (TST): Teachers and other professionals who assist other teachers to address learning needs of individual students based on problem-solving (Munday, 2005).

Three-Tier Instructional Intervention Model: Instructional intervention used to monitor progress and determine if students are making adequate progress. It also identifies students that fall behind and modify instruction early enough to ensure that each and every student gains essential skills (Munday, 2005).

Tier 1 of the Mississippi Three-Tier Model: Quality classroom instruction based on the Mississippi (MS) Curriculum Frameworks (Munday, 2005).

Tier 2 of the MS Three-Tier Model: Focused supplemental instruction (Munday, 2005).

Tier 3 of the MS Three-Tier Model: Intense interventions specifically designed to meet the individual needs of students (Munday, 2005).

Universal Screening: This is a step taken by school personnel early in the school year to determine which students are “at-risk” for not meeting grade level standards. Universal screening can be accomplished by reviewing recent results of state tests, or by administering an academic screening test to all children in a given grade level. Those students whose test scores fall below a certain cut-off are identified as needing more specialized academic interventions (National Association of School Psychologists, 2006).

## **Summary/Conclusion**

Reading proficiency is an important index of learning ability and is positively correlated with a student’s academic achievement in elementary schools (Chapman et al., 2000). The ability to read proficiently allows students to be successful academically. Through the use of Response to Intervention, teacher directed instruction, and computer based adaptive assessments, it is possible that students who are not reading on the appropriate grade level could have an opportunity to strengthen their reading skills where deficiencies exist. However, without some form of exposure to reading interventions, students may continue to fall through the cracks and

get left behind within the classroom. Reading is an essential skill because it contributes to the overall academic progress and success of every student within the instructional environment. Reading is the foundation for all future learning. It is the most important skill students must master to become independent, lifelong, proficient, and advanced readers.

### **Organization of the Study**

This study is organized into five chapters. Chapter 1 serves as the introduction to the study. The introduction states the problem to be studied, outlines the purpose of the study and the research questions, describes the limitations and delimitations of the study, describes how the study was organized, and shows the significance of the study. Chapter 2 provides a review of the related literature in the educational field on Response to Intervention, the use of direct instruction by teachers, and the use of computer based adaptive assessments to help at-risk readers attain reading proficiency. This study reviews MCT assessment data from the 2009-2010 school year and the 2010-2011 school year to see if the treatment group benefits from the Response to Intervention reading program due to their exposure to the interventions found within the Response to Intervention reading program. Chapter 3 serves as an outline of the procedures used in the study including data collection and data analysis procedures employed to validate the findings gathered during the experimental process of the quantitative study. Chapter 4 is devoted to the analysis and interpretation of data collected during the study. The final chapter, chapter 5, includes a discussion of the findings to show if the use of a Response to Intervention reading program that utilizes teacher directed instruction and teacher directed instruction plus a computer based adaptive assessment leads to an improvement in students reading achievement performance on the MCT2, the state's standardized literacy examination. The MCT2 reading scores that were included in the study were limited to the students that were enrolled in the third

grade during the 2009-2010 school year and fourth grade during the 2010-2011 school years in order to compute the reading growth score on the MCT2.



## **CHAPTER 2**

### **LITERATURE REVIEW**

The review of literature for this study draws attention to eight areas: (1) the emergence of response to intervention, (2) the rationale behind the use of response to intervention, (3) the role of response to intervention in reading development, (4) the framework of the Mississippi Three-Tier Instructional Intervention Model, (5) the use of computer based adaptive assessments, (6) the importance of effective teachers and literacy instruction, (7) the existence of gender differences in reading achievement, and (8) the rise in the number of at-risk readers in today's educational setting.

#### **Body of Review**

A nurturing and enriching learning environment is a significant element needed in the literacy development and academic performance of school aged students. Without sufficient literacy development, students that are defined as at-risk readers will continue to fall behind their peers. This failure to keep up with their peers can lead to grade retention and issues with poor self-esteem. According to Jimerson et al. (2005), the impact of retention on reading has a very adverse effect because it can lead to poor academic performance, poor peer interactions, poor school performance, poor behavior problems, and poor self-concept. Research gathered by Jimerson, Kerr, and Pletcher (2005) also points out that for most students grade retention has a negative effect on all areas of academic achievement and social and emotional adjustment. It is believed that when most students are retained they also tend to demonstrate poor reading skills.

According to Musti-Rao and Cartledge (2007), reading is a survival skill, and the failure to read during the elementary years reduces a student's chances of success in school and life. Students need a strong literacy rich experience within the home and school to be excellent avid readers. The ability to read affords one the opportunity to be able to read and write fluently and with comprehension. To ensure that students receive a rich reading experience, it is important for teachers to identify students with reading deficiencies early on using specialized interventions and direct instruction in pre-reading skills. Justice (2006) points out that reading interventions delivered during this period are considered preventive and aimed at lowering a student's risk for developing later reading difficulty by building skills that are causally associated with skilled reading success. Juel (1996) believes that the key components required in teaching a student to read involves verbal instructions, direct instruction, and written materials that are on the right level and provided at the right time. Students need to be in a positive learning environment that provides them with the interventions that address their reading deficiencies appropriately as a means to move at-risk struggling readers into becoming enthusiastic, avid readers.

At-risk readers perform poorly in comparison to school aged peers that are reading on and above grade level. When at-risk readers perform poorly in reading development, it directly impacts their ability to excel academically. If at-risk readers continue to struggle with their reading and academic performance, it is likely that these students may be at-risk for retention. The use of a Response to Intervention reading program that employs the use of direct reading instruction by certified teachers is becoming a common choice and cost effective way to address the needs of a large population of students that are at-risk for reading failure and reading below grade level. To prevent students from being at-risk and continuing to experience reading failure, a researched-based model for improving reading achievement called Response to Intervention

was developed. According to Marston (2005), Response to Intervention enables educators to frequently assess the progress of each student and to uphold the accountability statutes that have been placed on educators under NCLB. Furthermore, Response to Intervention allows educators to have access to an approach that is believed to help at-risk readers improve their reading skills and eventually acquire age-appropriate reading skills.

### **Emergence of Response to Intervention**

Due to the mounting documentation that showed many students were being inappropriately identified as learning disabled, the accountability movement, and the reauthorization of the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, a data-based decision making model known as Response to Intervention emerged to enhance instruction and learning for all students. Many students with the educational setting were being inappropriately labeled as learning disabled due to existence of a model known as the discrepancy model. Carbo (2010) defined the discrepancy model as a model that defined students as having a severe discrepancy between their intellectual ability and achievement. “Indeed, until the last few decades, no serious considerations has been given to the possibility that, for a student with a discrepant profile between achievement and intelligence, the student’s experience and instruction might be the locus of the disability” (Lipson & Wixson, 2010, p. 20). “The use of the discrepancy model meant teachers could not help students with learning disabilities until they had fallen substantially behind and were struggling” (Carbo, 2010, p. 121 ). Because the number of students being labeled as learning disabled skyrocketed, IDEA or Law 108-446 introduced RtI in 2004.

Lipson and Wixson (2010), RtI emerged because many students were being inappropriately identified as learning disabled instead of using a process in which struggling

learners are provided with enhanced, intensified instruction for the purpose of preventing long-term learning difficulties and avoiding inappropriate LD classification. “Its basic premise is that a student should not be considered for learning disability designation until it can be documented that the student has received appropriately targeted and intensified instruction and the instruction has failed to accelerate the student’s learning to the point where he or she can meet grade level expectations” (Lipson and Wixson, 2010, p. 21).

The emergence of Response to Intervention began with the National Research Council study conducted by Heller, Holtzman, and Messick in 1982. “The study of Heller and colleagues (1982) began the momentum for use of responsiveness to instruction eligibility determination for special education services” (Bender & Shores, 2007, p. 4). As a result of this study, researchers found that the quality of instruction and the organization of special education programs have an impact on the improvement of student outcomes. After this study was completed, research and policies continued to surface that supported the emergence of Response to Intervention. According to Bender and Shores (2007), the National Reading Panel outlined the major components of reading. “In 2000, the National Reading Panel published a list of five essential components of reading instruction which were incorporated into the No Child Left Behind legislation” (National Institute of Child Health and Human Development, 2000, p. 1). It was believed that the National Reading Panel supported the incorporation of phonemic awareness, systematic phonics instruction, fluency, vocabulary, and comprehension because reading or learning to read is a combination of all the skills.

During the year 2001, additional reports and policies such as the President’s Commission on Excellence in Special Education continued to surface and support the need for the emergence of Response to Intervention. These reports and policies surfaced because many students were

being inappropriately labeled as learning disabled. “In 2001, President George W. Bush established the Commission on Excellence in Special Education (2002) to study special education issues and make recommendations concerning how services might be improved” (Bender & Shores, 2007, p. 4-5). According to Douglass and Fuchs (2007), there is a chronic disagreement as to what learning disabilities really are and how to best identify them in students and youth. In order to minimize the overwhelming number of students being inappropriately placed, Response to Intervention continued to emerge on the scene. In 2001, the National Summit on Learning Disabilities recommended Response to Intervention as the “most promising method of LD identification” (Bender & Shores, 2007, p. 5).

The transition from 2001-2002 continued to lead to more research and policies supporting Response to Intervention. “In 2002, the National Research Center on Learning Disabilities issued the *Common Ground Report*, which identified fourteen recommendations regarding the identification, eligibility, and intervention for learning disabilities” (Bender & Shores, 2007, p. 5). The *Common Ground Report* (2002) was devised by 8 professional group leaders to create viable options for LD determination. “This group generated 14 consensus statements related to identification, eligibility, and intervention” (NRCLD, 2007, p. 1). The *Common Ground Report* statements that were developed during this symposium validated that the report aligned and supported the Response to Intervention action plan.

The Response to Intervention plan served to catch students early on that are not excelling and succeeding within the general instructional environment by identifying and implementing research-based interventions that will meet student’s academic needs and prevent them from being inappropriately labeled as LD. In order to ensure that students succeed and receive interventions in a timely manner, reports and policies continued to surface in 2002. “The

National Research Council Panel on Minority Overrepresentation in 2002 emphasized the importance of early identification and intervention for poor minority children and early recommendations for LD eligibility criteria” (Bender and Shores, 2007, p. 5). Unfortunately, there are an overwhelming number of students being recommended for special education services. According to the National Research Center on Learning Disabilities (2007), another concern is the number of minority students in special education. “There is a disproportionate representation of students of color in special education due to LD designation” (NRCLD, 2007, p. 1).

As a result of the historical events aforementioned, the emergence of Response to Intervention would soon be in the horizon. In 2004, IDEA introduced Response to Intervention to as a preventive measure to minimize the number of students being labeled LD and referred for special services. “Under new federal regulations, this allowed RtI to go into effect August 2006” (Bender & Shores, 2007, p. 4). “As a result, the 2004 version of the IDEA specifies that students could be diagnosed as LD if “the child fails to achieve a rate of learning to make sufficient progress to meet state-approved results” (Burns & Gibbons, 2008, p. 4). According to Bender and Shores (2007), Response to Intervention has risen to the top of the myriad of options for determining learning disability eligibility.

### **Response to Intervention**

Carbo (2010) describes Response to Intervention (RtI) as an approach that should serve as a safety net to catch students at-risk of failure early and provide immediate interventions that are carefully monitored. It is an intervention approach which involves the early identification of students who may be having difficulty learning under the regular education curriculum. Hall (2008) describes RtI as a practice of providing high-quality instruction and interventions

matched to student's needs and monitoring the student's progress frequently to make decisions about changes in their instructional goals, and applying child response data to important educational decisions.

The *International Reading Association* regards Response to Intervention (RtI) as a hot trend in today's schools because it serves to assist and provide interventions to assist students who are at-risk for developing reading and learning difficulties. According to IRA (2002), it is productive to think of RtI as a comprehensive, systematic approach to teaching and learning designed to address language and literacy problems for all students through increasingly differentiated and intensified language and literacy assessment and instruction. The IRA Commission (2002) points out that the language of RtI needs to reflect emphasis on optimizing instruction for students who are struggling with language and literacy rather than assuming permanent learning deficits. According to Godt (2010), IRA Reading Standards recommends that a wide range of instructional strategies, approaches, and methods, including technology-based practices for learners at different stages of development and from differing cultural and linguistic backgrounds be utilized during the instructional process. "The Guiding Principles developed by the IRA Commission on RtI are designed to help us move in this direction" (Lipson and Wixson, 2010, p. 12). The RtI approach is not just for those students receiving special services, but also serves the needs of all students who display signs of falling significantly behind their peers. "In short, RtI is not a model to be imposed on schools but rather a framework to help schools identify and support students before the difficulties they encounter with language and literacy become more serious" (Lipson & Wixson, 2010, p. 6).

Before RtI came into existence, many students were labeled wrong and fell through the cracks. According to Fuchs, Fuchs, and Vaughn (2008), many students must "wait to fail"

before they obtain the services they need. Moores (2008) states that the goal of RtI is to prevent failure and ensure success for all students through early identification, progress monitoring, and research-based instruction. When the RtI approach is used effectively, good teachers will know how to identify students that are at-risk for developing reading and learning difficulties, assess and monitor their progress, and differentiate reading instruction to meet the needs of all students struggling with reading. According to Fuchs, Fuchs, and Vaughn (2008), the International Reading Association (IRA) has issued various documents on preparation standards for reading professionals of various types, and these can serve as a good starting point for ensuring that reading teachers have the knowledge and skills needed to successfully improve a school reading program.

Moore and Whitfield (2009) believe that the progress monitoring step is a very critical component to the RtI model because it provides immediate feedback as to how well the student is responding to the teaching of the reading curriculum and it informs the reading teacher when adjustments need to be made to the reading instruction. Once the necessary modifications have been made and personalized to meet the needs of the students, the research-based interventions used by the RtI approach can serve as a solution for intervening and supporting the reading difficulties of every at-risk reader. “Response to Intervention has great potential to help many low level and at-risk readers” (Carbo, 2010, p. 121).

### **Response to Intervention in Reading Instruction**

Response to Intervention (RtI) in reading development is a process that is designed to help reading practitioners within the school community identify evidence based interventions that address the needs of at-risk readers. Allington (2010) believes that RtI is possibly our last and best hope for achieving full literacy in the United States, however how RtI is conceptualized



and implemented within the school setting needs to be addressed so that it continues to benefit and meet the needs of the students that it serves. When RtI is implemented correctly, at-risk readers are offered an intense, individualized academic intervention plan that addresses the reading difficulties and deficiencies of that student.

Lipson and Wixson (2010) imply that research on RTI and language and literacy instruction suggests that there are serious reasons to step back from the measurement- oriented perspective currently framing many approaches to RTI and move toward an instructional perspective that will help us improve instruction for every struggling learner. “A meta-analysis of research found that RtI led to improved systematic outcomes and student progress” (Burns, Appleton, & Stehouwer, 2005, p. 7). Furthermore, a research study on the implementation of Response to Intervention conducted by Marston, Muyskens, Lau, and Canter (2003) suggests that reading skills improved among students identified as at-risk for reading failure. According to Sornson, Frost, and Burns (2005), it has been found that through the implementation of Response to Intervention in reading instruction an increased number of students demonstrate proficiency on state accountability tests. This may be attributed to the intensity of the reading instruction associated with RtI programs.

According to the National Research Center on Learning Disabilities (2003), RtI features a continuum of increasingly intensive, specialized instruction that is implemented in the earliest stages of reading development and continued until the end of second or third grade. “The RtI models of LD identification are conceived in good part as a multi-tier prevention system, which is also a hallmark of the federal Reading First Program” (Fuchs, Fuchs, & Vaughn, 2008, p. 2).

The Reading First program was a federally funded program that focused on allocating money to school districts that needed to achieve the goal of successfully preparing students to

read on grade level by grade 3. President George Bush signed the Reading First program into law in 2002. Reading First Supports (2007) points out that this initiative was authorized by No Child Left Behind in order to ensure that every child develops stronger reading skills and reads on grade level or above by the end of the third grade. According to ed.gov (2006), the Reading First program was also designed to provide professional development to teachers using scientifically based reading programs, to implement effective methods and instructional strategies in the classroom based on scientifically based research, and to ensure accountability through on-going, valid, and reliable assessments. In order to ensure that the Reading First initiative would be a success, this initiative required that states and participating school districts adopt scientifically-based reading programs that contained key researched based instructional components. Edmonson and Shannon (2002) pointed out that the Bush administration would only disperse allocated funding to eligible elementary schools with K-3 reading programs “anchored in scientific research”. It was believed that Reading First programs would improve the quality of reading instruction and help at-risk readers achieve reading proficiency. In order to achieve academic excellence in reading, the United States Department of Education (2006) produced the following five goals for the Reading First Initiative:

1. Every child will be taught to read at grade level or beyond by the end of the third grade.
2. All K-3 teachers and special education teachers will receive the results-based professional development that is necessary to enable them to teach reading effectively.

3. All K-3 building-level principals and literacy coaches will receive results-based professional development that is necessary for them to plan, organize, implement, and monitor reading programs based on scientifically research-based reading research.
4. All reading programs based on SBRR will be implemented for students in grades K-3.
5. All K-3 classroom teachers will be prepared to screen, identify, and diagnose reading problems facing students in K-3 classrooms.

Not only did Reading First surface to improve reading instruction for at-risk readers, but Response to Intervention program came about to ensure that their literacy deficiencies of all learners would be addressed to safeguard against students falling through the cracks.

Most Response to Intervention programs are divided into a three-tier system. According to Howard (2010), the tiered model is designed to offer instructional support at increasing levels of intensity according to each student's needs with specific features. The tiered model is made up of a three-tier intervention model. Each tier is not alike and varies. Each tier differs from the other because each tier differs due to the intensity of the instruction and how student learning will unfold on that tier level.

Tier 1 is the tier that serves as a foundation for student's learning. To ensure that students learn the content that they are required to know, this tier contains the core curriculum which is integrated within a regular classroom. This core curriculum helps to determine whether core instruction is being properly delivered to a group of students. When a significant number of students are unsuccessful with core instruction on Tier 1, changes need to be made to the delivery of group instruction to ensure that the needs of all students are being addressed. Tier 2 interventions provide instructional interventions to a small group of at-risk readers who are unable to gain success at the Tier 1 level of instruction. Students continue to receive Tier 1 and

Tier 2 intervention. However, data is obtained to determine whether students need to remain at Tier 1, Tier 2, or transition to Tier 3. Tier 3 serves at-risk readers who are unsuccessful after Tier 2 interventions. These students receive intense instructional support for a longer duration of time because they are struggling to attain success at Tier 1 and 2.

Lose (2007) agrees with the use of a three-tier system because these multiple Tiers of support are introduced to students in the earliest stages of reading development, and the student's progress within intervention is carefully and regularly scrutinized to ensure progress is occurring in achieving criterion benchmarks in reading. If student progress is not being made, teachers must make the necessary modifications to accommodate the reading growth of struggling readers. In a study by Wanzek and Vaughn (2008), the researchers found that it might be better for teachers to adapt their instruction to the student rather than continuing to teach a program that is not working to ensure fidelity of instruction. Fuchs, Fuchs, and Vaughn (2008) indicate that a substantial commitment to total minutes of reading instruction in the elementary school day needs to consist of minutes of effective instruction that meets varying student needs. Because the goal of RtI is to meet the needs of at-risk students, it is important that the intervention being provided shows both accelerative learning and progress over time. To ensure that progress occurs over time and the intervention does not fail the student, the Response to Intervention three-tier approaches must be implemented with great precision to support the academic needs of all students on various academic levels. In order to assist at-risk readers and provide them with the appropriate interventions they need to improve their reading deficiencies, educators in Mississippi must utilize the state of Mississippi's three-tier intervention model to help students avoid failure which is depicted in figure 1.

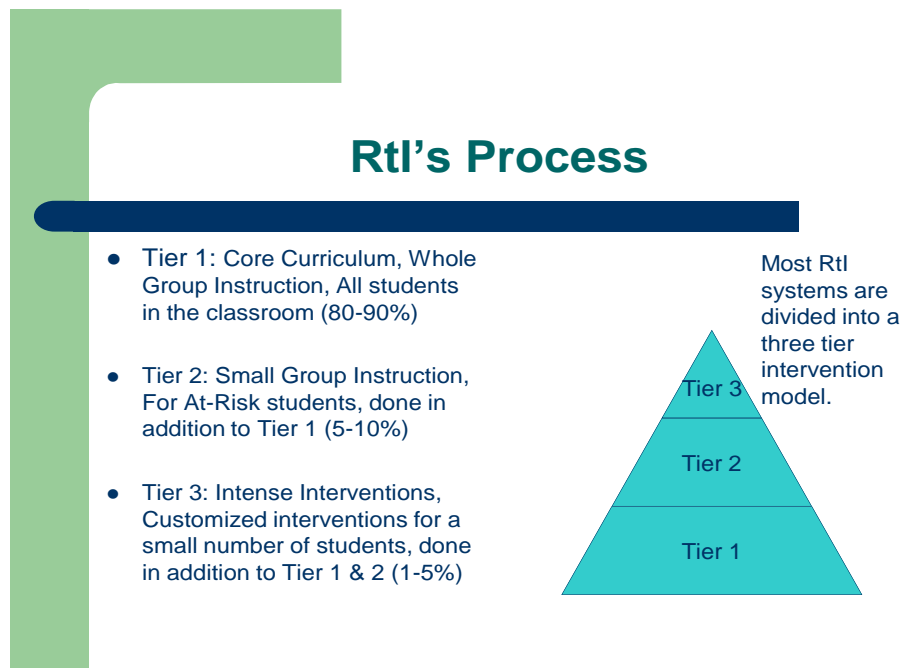


Figure 1. RtI Process and Three-Tier Model  
(Adapted from the National Research Center on Learning Disabilities, 2006)

### Mississippi Three-Tier Intervention Model

The Mississippi Three-Tier Intervention Model was developed due to Mississippi's implementation of a Response to Intervention plan. This model was put in place on January 21, 2005 to ensure that all learners could excel academically through the differentiation of instruction. The execution of the three-tier model became a very important initiative across the state of Mississippi to ensure that all students received the appropriate level of differentiated instruction and interventions before academic concerns become severe. The stakeholders of Mississippi believed that the use of this plan would enable educators to be better equipped to provide all students with the resources and interventions they need in order to be successful within the classroom. Munday (2005) defines the three-tier instructional model as scientific based research approach that can be utilized to identify at-risk readers early on before they fail and fall further behind their peers. Therefore, the early identification of reading difficulties is

imperative to the academic success of at-risk readers. Lyons (1998) indicates that research suggests that with early, intensive, and continual reading intervention by third grade, 95% of at-risk readers could improve their reading deficiencies. According to the Mississippi Department of Education (2008), the RTI plan provides educators with an opportunity to come together in a consistent decision-making process to address students' learning difficulties by focusing first on student's instructional needs and only secondarily on eligibility decisions.

Not only does the three-tier model provide instructional interventions to at-risk readers, but it provides differentiated instruction and flexible grouping to accommodate the needs, interests, and ability levels of the student. The Mississippi Department of Education (2008) believes that flexible grouping and differentiating the instruction will enable teachers to teach responsively to student differences while working toward the same desired outcomes for all students. Hall (2008) suggests that one of the best things about the three-tier model is that it is useful in establishing a common set of terms to use in talking about layers of instruction and students moving from one layer to another. If the three-tier intervention model is not implemented effectively, students that are at-risk of falling behind their peers will not be able to catch up with their peers and obtain success within the regular education classroom. When a successful implementation of the tiers occurs correctly, this will prevent the over-identification of students in special education. Through professional development, teachers can be trained to utilize a plethora of strategies to better serve diverse at-risk learners. Good, Kaminski, Simmons, and Kame'enui (2001) point out that the identification of students that are at-risk for reading failure is critical to helping ensure students become competent readers. In order to ensure that at-risk readers become competent readers, student interventions are provided using three instructional tiers.

The three-tier instructional model consists of Tier 1, Tier 2, and Tier 3. According to the Mississippi Department of Education (2008), Tier 1 is used to identify students who have developed essential academic skills required for success at the next level of instruction. It is described as the instruction students receive within the general education classroom. Classroom instruction should comprise of high quality instruction, researched based instructional strategies, frequent assessments of students strengths and weaknesses, and the ongoing incorporation of ideas received through professional development. Hall (2008) indicates that Tier 2 is described as the first line of intervention for only the students who are below benchmark with the core instruction and early literacy screening. Tier 2 is also described as teacher directed instruction where students have the opportunity to focus and cover targeted skills. In order for Tier 2 to benefit the students that it is serving, teachers must do frequent progress monitoring to document and assess student progress. Tier 3 is utilized for students who are not making adequate progress on Tier 2. Hall (2008) points out that Tier 3 is not special education but it is a more intensive form of intervention that is used to try to improve student progress and avoid the necessity of placement in special education. Because the interventions in Tier 2 are more intense and focused, students that are placed on Tier 3 are provided more time to make adequate progress.

For teachers to know what interventions to use so that students make adequate progress, the teacher must document the interventions that are being utilized for each student and tier. The referring teacher must submit this documentation to the Teacher Support Team (TST). The TST is described as a unit created to develop intensive, research-based interventions to meet the individual needs of students. According to Munday (2005), the referring teacher collaborates with the TST team. The teacher can in turn receive the necessary resources and interventions needed to accommodate the needs of all students and become effective teachers. To be effective

with supporting the needs of at-risk readers, teachers and the TST team must use a wide array of resources, analyze baseline data, utilize progress monitoring often, and frequently assess student progress. This would enable the teacher and the TST team to set clear, achievable, measurable intervention goals. Furthermore, teachers and the TST team can determine the frequency and intensity of interventions and how interventions should be modified to support the ever changing learning needs of each student that is being served. Marston (2005) indicates that the three-tier model can work and remediate the reading deficiencies of struggling students, but the regular education teacher must work cooperatively with the TST team and take accountability for promptly identifying at-risk individuals and delivering research-based interventions using various resources and tools such as: differentiated instruction, computer adaptive literacy assessments, effective teachers, and effective literacy instruction.

### **Differentiated Instruction**

According to Gregory and Kuzmich (2004), it is no longer an option to let students fall through the cracks. “While many teachers acknowledge academic diversity in their classrooms and often affirm the need to address student variance, their practice tends to be misaligned with those beliefs” (Tomlinson et al., 2003, p. 124). Teachers’ beliefs are misaligned because many teach and assess all students the same. Due to the vast amount of diversity that is present within today’s instructional setting, differentiation becomes essential to all learners present within the learning environment. “Covering information takes a back seat to making meaning out of important ideas” (Tomlinson, 2001, p.16). Differentiation of instruction involves a teacher’s response to a learner’s needs and providing each student with appropriately challenging learning experiences that meet their needs. According to Tomlinson (2001), a differentiated classroom provides different avenues to acquiring content, to processing or making sense of ideas, and to



developing products so that each student can learn effectively. “Teachers in differentiated classes understand the need to help students take increasing responsibility for their own growth” (Tomlinson, 2001, p. 5).

Though differentiating instruction is essential to effectively teaching all learners, some teachers continue to use a one-size-fits-all approach to teaching and measuring each student’s performance. A one-size-fits-all approach is unrealistic and does not work for every student. “Students don’t all learn the same thing on the same day in the same way” (Gregory & Kuzmich, 2004, p. 2). Therefore, teachers can only maximize the learning opportunities for all students in the classroom by teaching students according to their readiness, interests, and learning style. This information can be gathered when teachers make it imperative to know, meet, respond, and understand the individual needs of each student present within the learning environment. “Because differentiated instruction is dynamic, teachers must monitor the match between the learner and learning and make adjustments as warranted” (Tomlinson, 2001, p. 5).

In order for teachers to know how to effectively differentiate and adjust the instruction, teachers must make it imperative to collect pertinent data to identify, know, and respond to the needs of all students. “Well-designed classroom data collection and analysis and the everyday information that a teacher collects forms the backbone of student growth” (Gregory & Kuzmich, 2004, p. 9-10). The more a teacher knows about his or her students and how to assist them exactly where they are along the learning continuum the more that students will grow academically. “In order to effectively target growth for all students, accurate instruction increases the chances that more students will reach their target” (Gregory & Kuzmich, 2004, p. 10). One way to effectively use data gathered within the classroom is to utilize differentiated instruction.

In a research study conducted by Tieso in 2002, the use of differentiated instruction within the instructional environment leads to achievement gains across economic lines through the use of pretest and posttest results. “Data driven decision making helps teachers maximize the limited time they have with students” (Gregory & Kuzmich, 2004, p. 10). In a research study conducted by Brimijoin (2001), the use of differentiated instruction in the instructional environment was considered important because achievement gains were found on the state standardized tests.

When teachers effectively gather and process the information that is needed to successfully address the need of all students, teachers are more likely to successfully differentiate instruction and make a difference in their student’s academic growth. According to Gregory and Kuzmich (2004), the effective use of classroom data increases the probability that more students will demonstrate proficiency and higher levels of performance on standardized tests. Student outcomes have the potential of being disappointing when teachers do not proactively modify the curriculum and differentiate instruction. Disappointing outcomes can be avoided and student outcomes can be exceptional when instruction is effectively differentiated.

According to Tomlinson (2001), effective differentiation of instruction will typically be proactively planned by the teacher to be robust enough to address a range of learner needs, in contrast with planning a single approach for everyone and reactively trying to adjust the plan when it becomes apparent that the lesson is not working for some of the learners for whom it was intended. Effectively differentiated instruction is beneficial for both the student and the teacher implementing the instructional strategies. “Teachers grow in their ability to (1) assess student readiness through a variety of means, (2) read and interpret student clues about interests and learning preference, (3) create a variety of ways students can gather information and ideas, (4)

develop a variety of ways for students to explore and own ideas, and (5) present varied channels through which students can express and expand understanding” (Tomlinson, 2001, p. 16).

However, effectively differentiating instruction can be a challenging task.

Although managing a differentiated classroom is not always easy, differentiating instruction is essential to student academic performance and growth. Tomlinson (2001) suggests that progress in the use of differentiated instruction tends to make a school a better fit for more students and a more satisfying and invigorating experience for teachers. “There is no recipe for differentiation” (Tomlinson, 2001, p. 27). This is why it is so crucial for teachers to know the readiness, interests, and learning style of every child present within the instructional environment. The more teachers know the more students will grow. Through effective differentiation of instruction, students of all ability levels can perform and excel academically. One way teachers can effectively differentiate instruction would be through the use of computer technology. According to the National Reading Panel report released by the NICHD in April 2000, the computer can be used as technology tool to either present or augment traditional instructional practices and deliver a variety of types of reading instruction successfully.

### **Computer Based Adaptive Assessments**

The latest computer technology and software that is available within the instructional setting offers computer –assisted instruction which is designed to assess and pinpoint where the student is along the learning continuum. This type of software is known as computer-based adaptive assessments. “Computer Based Adaptive Assessments are defined as computerized assessments that are customized and designed to fit individual needs and performance level” (Van Horn, 2003, p. 567). The enactment of NCLB has influenced standardized assessments to become a common tool used to measure student’s achievement on grade level standards and

benchmarks, various educational organizations have decided to create and design computer based adaptive assessments. Computer based adaptive assessments are being designed to help at-risk readers improve their performance on standardized assessments. Martindale, Cates, and Qian (2005) indicate that computers, educational software, and web resources can contribute in a variety of ways to effective learning environments when they are used appropriately. In order to assist at-risk readers with attaining growth in their literacy development, some school districts have opted to utilize computer based adaptive assessments.

School districts are utilizing computer based adaptive assessments because many students do not fare well on paper-pencil assessments. “One of the most-widely used commercially available systems incorporating benchmark assessments and training in differentiated instruction is the Northwest Evaluation Association’s Measure of Academic Progress (MAP) program; The MAP Program tests and trainings are used in more than 10 percent of k-12 school districts nationwide and in more than a third of the districts in the Midwest” (Northwest Evaluation Association, 2005, p. 1). In order to appeal and assist at-risk learners of various learning styles, researchers believe the use of computer based adaptive assessments is advantageous. Merrell and Tymms (2007) point out that computer based adaptive assessments have the ability to handle data from tens of thousands of pupils, make administration time easy, provide items appropriate to the ability of individual pupils, analyze data for teachers, and give more accurate and reliable results. Furthermore, Merrell and Tymms (2007) added that the computer based assessments deliver individualized assessments in schools to multiple computers at one time and in a web-based feedback system. This system is capable of handling data from tens of thousands of pupils with far fewer questions that are either easy or too difficult, thus having the potential to provide

teachers and administrators with more accurate and reliable information in a shorter amount of time.

According to Merrell and Tymms (2007), computer based adaptive assessments present students with a higher number of items that are appropriate to their ability. “It is simply a test that makes a continuous adjustment in difficulty of items so that they match a student’s performance level” (Van Horn, 2003, p. 567). Merrell and Tymms (2007) explain that the computer focuses in on the child’s ability level-just the place for subsequent teachings at child’s zone of proximal development. This is one of the great advantages of teachers using this tool to remediate the reading deficiencies of at-risk readers. According to Merrell and Tymms (2007), teachers can utilize computer based adaptive assessments to get immediate feedback on the strengths and weaknesses of each pupil and focus on the areas that require remediation within their literacy instruction. “This system has advantages over a traditional pencil and paper group assessment in terms of the ease and time for administration, the ability to provide items appropriate to the ability of the individual pupils, which gives more reliable results for pupils at the extremes of the normal population, and a reduction in administration, marking, and analysis for teachers” (Merrell & Tymms, 2007, p. 35). However, the computer based adaptive assessment and the results that it reveals will only be beneficial when the teacher is knowledgeable on how to interpret the results and modify the child’s interventions to accommodate his or her needs. When teachers are knowledgeable on how to analyze and interpret test results, they will be better equipped to provide at-risk readers with effective literacy instruction which comprises the modification of reading interventions and instructional strategies to accommodate the needs of the learner.

## **Effective Teachers and Literacy Instruction**

Farstrup (2002) says that qualified and talented teachers are essential if effective, evidence –based reading instruction is to occur. Effective literacy instruction is essential to student’s academic success. According to Bukowiecki (2007), the employing of a variety of instructional practices by qualified teachers can be the key to improving the literacy of students. The teacher is defined as a valuable component in helping students strengthen their literacy deficiencies through effective instruction. Without strong and effective literacy instruction, Ediger (2007) indicates that students are challenged to pass mandated tests in grades three through eight and the exit test on the secondary level in order to be promoted to the next higher grade level or to receive a high school diploma. Short, Kane, and Peeling (2000) explain that learning to read is the basis for success in school. According to Stice and Bertrand (2000), teachers must work tirelessly to lay a solid foundation for school literacy by utilizing research-based core understandings that provide students with the best literacy experience possible from which to ultimately reach their full literacy potential. Stice and Bertrand (2000) believe that educators can provide students with effective literacy instruction by avoiding the use of a prepackaged reading program, using prepackaged textbooks, teaching to standardized tests, using ditto sheets, and using preset lesson plans. In order for teachers to teach literacy effectively, educators of literacy must utilize literacy instructional plans that are interactive and engaging for students of all ability levels. The lessons, instructional strategies, and interventions used by teachers must prompt students to engage in discussions about good books, encourage students to make inferences and interpretations about what they are reading, and provide students with a literacy experience that fosters the growth of the areas where literacy deficiencies exist.

According to Carbo (2010), teachers need powerful interventions that can propel low-skilled readers forward.

As classroom teachers organize and plan their literacy instruction, Ediger (2007) feels that literacy instruction must be designed so that objectives are achieved sequentially. In order for this task to be accomplished, Moore and Wigfield (2009) point out that it is the educator's responsibility to establish a prevention model that addresses the reading deficiencies of all students rather than a wait-to-see failure model. In order for teachers to ensure that they are laying a sound foundation for each student that is served within the classroom, teachers must use an array of tools and resources to accommodate the various needs of the students within the class.

Short, Kane, and Peeling (2000) believe that equipping students with multiple tools for reading helps make the job of reading easier for those who initially find it difficult. Once teachers have identified the right tools and strategies, teachers can reflect and rethink their reading instruction so that struggling readers can grow into independent, lifelong learners. At-risk readers have the potential to grow into independent, lifelong learners when the instructional plans that are implemented during literacy instruction accommodate the needs of all learners, Hiebert and Taylor (1994) feel that at-risk readers need more than effective short-term interventions; they also need effective reading instruction in their regular classroom programs.

Though effective literacy instruction is essential to the reading development of at-risk readers, there are teachers that lack the preparedness and knowledge of the reading content students need to become lifelong, independent readers. In order for at-risk readers to achieve the goal of being able to read on grade level by grade 3, teachers must expand their expertise and knowledge base when it comes to teaching reading effectively. Cunningham, Perry, Stanovich,

and Stanovich (2004) believe that in order for educators to understand what constitutes the effective teaching of reading it is important for educators to be well calibrated on how to teach literacy content effectively. Though it is imperative for educators to having a thorough working knowledge on how to effectively instruct at-risk readers, Duffy-Hester (1999) points out that a national survey indicated that there are a number of teachers who do not know how to meet the needs of at-risk readers. Baumann and Duffy (1996) feel that many educators view teaching at-risk readers as one of their greatest challenges. If there are teachers that lack the assurance of their ability to effectively instruct at-risk readers, this will cause school-aged children's ability to attain reading proficiency and gender differences in reading achievement to be adversely affected.

### **Gender Differences in Reading Achievement**

Research findings on gender differences and academic achievement between males and females are mixed. "Several researchers have investigated gender differences in academic achievement and have reported that males outperformed females in subjects like mathematics and science, while girls performed better overall in reading, social studies and other linguistic-based subjects" (Coley, 2001; Mullis, Martin, Fierros, Goldberg, & Stemler, 2000, p. 1). Other researchers such as Freeman (2004) and Planty et al. (2009) have stated that there are no gender differences in academic achievement among males and females. Lloyd, Walsh, and Yailagh (2005) found that females performed better in school than males in both reading and mathematics. Because it is unknown which gender actually attains higher results in reading achievement, a public debate has surfaced to determine which gender is stronger in reading achievement.



The public debate surrounding gender differences in reading achievement continues to escalate in intensity and scope because a definite finding has not been found. The findings that have been discovered vary from study to study. Therefore, it is uncertain to reading practitioners and researchers which gender truly achieves at a higher level. According to the investigation of gender differences in reading carried out by Logan and Johnston (2010), differences in reading achievement are consistently found in national and international assessments. “Some studies indicate that girls significantly outperform boys in reading achievement, while others indicate there is a low correlation between reading achievement and gender” (MacFarlane, 2001, p.6). The doubt regarding which gender outperforms the other has caused the debate on the relationship between gender and reading achievement to be far from being over. Taylor (2005) suggests that the gender gap in literacy is significant and not improving. “Since there is no progress being made with narrowing the reading achievement gap among boys and girls, reading practitioners and researchers must discover better ways of teaching so that all students are drawn into the inner circle of literacy” (Taylor, 2005, p. 297). Logan and Johnston suggest that in order for any type of reading instruction to be effective, children need to be attentive and engaged during the learning process.

In order to develop better ways of teaching reading and narrow the reading achievement gap, researchers and reading practitioners must revamp how the reading curriculum unfolds within the reading instructional environment. “The reading curriculum should be capable of preparing young people to tackle a wide range of texts, in a range of different media, intelligently and critically” (Moss, 2000, p. 105). Researchers possess a lack of confidence regarding how the reading achievement gap can be narrowed. They are also doubtful about which gender outperforms who or whether if they are performing on the same level. Mead (2006) indicates that

if a gap in reading performance continues to exist, it is imperative for stakeholders within the school community to devise an action plan to eliminate the achievement gap in reading between girls and boys to ensure that all students become proficient readers. An initiative must be put in place by stakeholders to equalize and decrease the difference in reading performance between the genders if possible.

According to White (2007), the recent results from a large scale reading assessment shows that present researcher's concern relates to the consistent observation that girls on average surpass boys in their reading abilities. Costello (2008) reveals that in every age group, boys have been scoring lower than girls annually for more than three decades on the U.S. Department of Education Reading Tests. In addition, Costello (2008) mentions that males who have made it through 12 years of school have significantly poorer reading skills than their female peers. Cooley (2001) mentions that the National Assessment of Educational Progress (NAEP) is the only nationally representative and continuing assessment of what America's students know and can do in various subject areas. Kleinfield (2006) discloses data from the National Assessment of Educational Progress which points out that all boys lag behind all girls in reading, not just boys of color and boys of poverty; the typical boy lags a year and one-half behind the typical girl.

A review of the National Assessment of Educational Progress Data collected by Cooley (2001) shows that there is a statistically significant difference between males and females performance on the reading assessment; females scored higher than males in NAEP Reading Assessment across all racial/ethnic groups. In order to ensure that boys become stronger, proficient readers, reading practitioners and researchers must employ an array of instructional strategies to meet the reading deficiencies of all children. Costello (2008) feels that boy friendly

instructional strategies grounded in research can help transform the disengaged reader into the engaged reader, the struggling reader into the proficient reader, and the reluctant reader into the voracious reader and improve reading scores of boys. While researchers suggest that an employment of an array reading instructional strategies to close the reading achievement gap, Logan and Johnston (2010) discovered that girls consistently outperform boys on test of reading comprehension, but the reason for this is not clear.

Therefore, the question remains why does one gender falls behind another in reading achievement. Connell and Gunzelmann (2004) characterize the gender and achievement debate as a complete problem influenced by many factors including: societal expectations, stereotypes, and commonly held myths about gender. In 2004, there was a study conducted by the Canadian government. This study involved investigating reading achievement and its relationship to home and environmental factors. As a result of the study, the Human Resources and Development Canada (2004) proposed and suggested that boys may fall “off –track” as they develop as readers in the primary grades resulting in the development of less than positive attitudes toward reading.

“Within the classroom environment, while all children receive the same literacy instruction, differences in attention, interest, and preference for different types of classroom activities may mean that boys and girls spend different amounts of time engaged in literacy activities” (Logan & Johnston, 2010, p. 177). Smith and Wilhelm (2002) suggest that gender differences in reading achievement are related to attitude. “Attitudinally, girls have higher estimates of their reading abilities than boys, value reading as an activity more than boys, are more interested in leisure reading than boys, are less likely to declare themselves as nonreaders than boys, and are more likely to express enthusiasm for reading than boys” (Smith & Wilhelm, 2002, p. 6). Mead (2006) has identified several elements of the gender and reading

achievement debate that merit further research and evaluation be done on the relationship between gender and reading achievement levels in the following ways: support and fund research on the differences in boys and girls achievement, ensure that studies use appropriate research methods and analysis tools, encourage and support experimental evaluations for addressing the achievement gap, ensure that information systems are collecting appropriate information about school experiences, academic achievement, educational attainment, and workforce outcomes for both males and females, ensure and support research focused on specific problems such as learning disabilities, autism, disciplinary problems, and emotional problems that are more likely to affect boys than girls.

Though the passage of President George W. Bush's No Child Left Behind Act in 2001 promised that all students would become at least proficient in reading/language arts, be taught by a highly qualified teacher, and graduate from high school, but unfortunately a large number of students are still struggling to attain reading proficiency on state standardized assessments. Not only is the ability to read proficiently important within the walls of an academic setting, but it is also essential and paramount into perform in today's society. Without the ability to read proficiently, many students will be left behind as they transition academically from one grade to another. The gender gap that exists in reading achievement will not only affect students in the content area of reading, but it also affects them across the curriculum. "This is the right time to take on the challenge of dramatically increasing the number of children who read proficient" (Casey Foundation, 2010, p. 28).

Reading proficiently by the end of third grade is crucial in a child's educational development. It is important that boys and girls develop a passion for reading to ensure that he or she develops a love for reading and become avid readers. Students can become and remain

enthusiastic about reading if school stakeholders, parents, and the community provide students with opportunities to be involved in the reading process. “As a nation, we still owe our children a fair opportunity to graduate from high school “ready for college, ready for career, ready for life” (Casey Foundation, 2010, p. 31). If we do not afford them the opportunity to develop their reading skills and excel academically, the life and education of school-aged children will continue to cause them to fall further behind their schools aged peers and remain at-risk of not becoming become fluent, independent, proficient, lifelong readers.

### **At-Risk Readers**

Vaughn (2006) suggests that the lack of resources and other administrative decisions have led to an increase in class sizes and the number of at-risk readers for whom special education teachers are responsible. Therefore, the number of at-risk readers for reading failure in today’s educational setting is on the rise. Jitendra, Edwards, Starsota, Sacks, Jacobson, and Choutka (2004) point out that there has been recent national attention to the importance of teaching early reading skills, but many students in America continue to struggle with reading and are unable to read proficiently by the end of third grade. “If students do not become fluent and strategic readers by the end of third grade, their chances for overcoming reading difficulty and catching up to their more successful peers are greatly diminished” (Coyne, Kame’enui, and Carnine, 2001, p. 166).

There are several reasons why at-risk readers tend to encounter difficulty with reading. Denton, Parker, and Hasbrouck (2003) suggest that many young students are at-risk for reading failure because their early education experiences fail to support their literacy development. Wood and Algozzine (1994) believe there are litanies of reasons students can be at-risk for reading failure. Though long and complex, some of the reason include: single-parent homes, low

family income, grade retention, being home alone, limited parental education, fetal alcohol syndrome, smoking during pregnancy, child abuse, and poor teaching. When students encounter factors such as these, they struggle to get off to a good start in comparison to their peers with their reading development. “One of the most compelling findings from reading research is that students who get off to a poor start in reading rarely catch up” (Good, Simmons, & Smith, 1998, p. 421). According to Vaughn (2006), at-risk readers can only get off to a good start when reading practitioners have provided them with what’s necessary and not with what is available.

Wood and Algozzine (1994) believe that students that are at-risk readers are likely to experience significant problems with achieving the most basic literacy skills. In order for at-risk readers to overcome their reading deficiencies, they will need more time to practice and obtain relevant reading skills than their counterparts who read on grade level. Vaughn (2006) suggests that at-risk readers need more intense and specific instructional time matched to their needs than more time in large groups in which education of at-risk readers is virtually either very difficult or impossible to provide. “Accumulated research evidence indicates that especially at-risk readers need sequentially structured activities that are either mediated by a teacher or a skilled peer in order to acquire automaticity in decoding and other important reading strategies” (Adams, 1989). Though there are an overwhelming number of students that are at-risk readers, there are measures that can be implemented to provide the struggling readers with the resources they need to attain reading proficiency.

Coyne, Zipoli, and Ruby (2006) point out that at-risk readers need teachers to teach reading using the big ideas. “Big ideas function as anchoring concepts within which “small” ideas can often be taught and understood” (Coyne, Zipoli, and Ruby, 2006, p. 162). When teachers utilize big ideas during reading instruction, this will enable at-risk readers to better

understand concepts that are beneficial to grasp during the reading instructional process.

According to the National Reading Panel (2000), the big ideas that are believed to be essential to at-risk students for reading disabilities in literacy development and reading instruction include: phonemic awareness, phonics, fluency, vocabulary, and comprehension. Without frequent exposure to the five big ideas by reading practitioners, at-risk readers will struggle to make adequate process with their reading development.

Hodgkinson (1991) believes that as the push for excellence and reform increases more and more students will be at-risk, but helping the students to make the progress they desperately need will require the collaboration of professionals using coherent educational objectives, tools, approaches, and structures. Vaughn (2006) believes that acceptable progress can only be made under not ideal conditions but necessary conditions. Teachers must realize that under the appropriate conditions their instructional practices directly influence the literacy development of the students they teach. However, teachers must realize that all students cannot be taught the same way using the same resources, strategies, approaches, and tools. According to the International Reading Association (1999), there is no single combination of methods that can successfully teach all students to read, so teachers must have a strong knowledge of multiple methods for teaching reading.

Teachers must have a strong knowledge about the students that they teach. When teachers have a strong knowledge about the students they teach, they will know how to address the needs of each individual child. According to Vaughn (2006), teachers must include the essentials of reading in reading instruction in order to address the needs of struggling readers. The essentials to reading instruction include: teaching at-risk readers critical elements of reading in an organized, systematic way, providing at-risk readers with opportunities to read text that they can

read and that they want to read, and utilizing reading material that teaches world knowledge and new words. There is not a one-size approach for teaching at-risk students how to read.

Because a one-size approach will not meet the needs of all at-risk students, there is a need for varied strategies within a balanced reading program. Vacca et al. (2006) point out that there are knowledgeable teachers who use flexibility in their approaches and strategies to achieve a balanced literacy program that benefits the needs of all students. It must be understood that there are not quick fixes on how to address the reading deficiencies of at-risk readers. Through knowledge and collaborative efforts by stakeholders within the school, at-risk readers have a fighting chance to attain reading proficiency and strengthen their literacy development. “Reading researchers and practitioners have strengthened their focus on prevention and early intervention efforts as a primary way to combat reading difficulties before they snowball into long-term reading failure” (Coyne, Zipoli, and Ruby, 2006, p. 166). However, the effective implementation of strong researched based literacy strategies and programs would be a valuable asset in the literacy education of at-risk readers.

### **Conclusion and Implications**

The real challenge of rural schools is to implement effective, well-evaluated, and researched-based interventions and strategies that can increase the level of literacy learning among our nation’s at-risk readers. If money is allocated to make literacy learning in rural schools an important initiative, a sufficient amount of money needs to be set aside to identify best practices and strategies to strengthen literacy development and to evaluate the effectiveness of these best practices and strategies in rigorous research designs. The best reading practices and intervention strategies without a credible evaluation is of little value to school districts and the students that they are designed to serve. Therefore, rural schools in America could benefit from



additional resources to assist with providing at-risk readers with the remediation and support they need to thrive in their literacy development.

However, it is likely that some teachers that provide interventions to at-risk readers may need to be trained to be an asset to their student's literacy growth and development. Therefore, school districts and teachers that serve at-risk readers must deepen their content knowledge on reading in order to make a significant contribution to their at-risk student's literacy growth and development. While there are undoubtedly thousands of Response to Intervention reading programs and plans in operation throughout the country, there are a few for which there are published evaluations of the program's effectiveness on at-risk readers reading achievement. If ineffective reading programs continue to be implemented and used to remediate the reading deficiencies of at-risk struggling readers, the ability of at-risk readers to attain reading proficiency will fail. These at-risk readers will continue to be left behind in the instructional environment.

## **Summary**

The research on the effectiveness of the use of a response to intervention plan for at-risk readers revealed the following: 1) many students are not reading on grade level by third grade and struggle to excel academically, 2) response to intervention programs are being put in place to meet the varied, individualized needs of at-risk students, 3) response to intervention models consists of a three-tier framework with appropriate levels of differentiated instruction and interventions before academic concerns become severe, 4) computer based adaptive assessments are being utilized to help at-risk readers improve their reading performance on state standardized tests, and 5) knowledgeable and effective teachers are needed to develop at-risk readers into lifelong, independent readers.

Therefore, in my quest to research the effectiveness of a Response to Intervention plan being utilized by a rural school in North Mississippi, my goal and purpose is to uncover and evaluate the effectiveness of the school's Response to Intervention plan which uses teacher direct instruction and teacher directed instruction plus a computer based adaptive assessments to strengthen the reading achievement levels of at-risk readers and help them attain reading proficiency on the state assessment. The completion of this study will allow this district to be more informed about the preparedness of their teachers with the effective delivery of literacy instruction and the effectiveness of a computer based adaptive assessment the school chose to pilot before money is allocated by the school district to purchase and implement the program within the instructional environment.

## **CHAPTER 3**

### **METHODOLOGY**

#### **Introduction**

This chapter provides a description of the research methodology in several sections. The sections that will thoroughly explain this study's research methodology include the following: the participants, the population and sample, the research design, the instrumentation, the procedures, and the data analysis design.

#### **Participants**

The current study was conducted in a rural, North Mississippi elementary school. This school was selected for the study because it was piloting the Measures of Academic Progress (MAP) Program. The selected school had a total enrollment of 548 students from pre-kindergarten through fifth grade. The majority of the students were low socioeconomic status, which was evidenced by 97% of the students receiving free or reduced lunch. The demographic makeup of this school consisted of 96% African American, 3% White, <1% Hispanic, <1% Asian/Pacific Islander, and <1% Native American/Alaskan. The MAP Program was piloted among the school's third grade students; this is the grade in which students should be reading proficiently. There was a total sample of 84 third grade students; however, because inclusion in the study was limited to students who had MCT2 scores for both the 2009-10 and the 2010-11 school years, only 64 students remained in the final study.

## **Instruments**

The instruments used in this study included: (a) Measure of Academic Progress (NWEA, 2010) and (b) the Mississippi Curriculum Test (CTB-McGraw-Hill, 2001).

**Measures of Academic Progress (MAP).** The MAP Program was an assessment tool used by teachers to provide detailed, actionable data, which ensured that students were assessed according to where the student was on his or her learning path. The developer of this assessment was the Northwest Evaluation Association. Using the MAP Program showed what students knew and what they were ready to learn, which provided a true picture of the student's knowledge base. Once this information was revealed, it allowed educators to see that a one-size-fit all approach would not work for every child. This computerized adaptive assessment presented students with engaging, age-appropriate content, which responded to each student's needs and knowledge base by increasing or decreasing the difficulty of the test questions as students took the assessment. The assessment adjusted the questions to meet the student on his or her zone of proximal development. It also used the Rasch Unit (RIT) scale to evaluate student growth and mastery of strand-defined skills. Teachers utilized this scale to measure a student's academic growth over time. If the data on a student's academic growth was used effectively, this positively impacted a student's school year and life over time. According to the Northwest Evaluation Association (2010), the validity and reliability of the MAP Program showed that the indices were consistently above statistical significance. Using this rigorous and adaptive approach resulted in meeting the academic needs of students.

**Mississippi Curriculum Test 2 (MCT2).** The MCT2 was an assessment used in this study to measure student achievement with test questions of varying degrees of difficulty. The questions found in the assessment aligned with the academic content standards found within the

Mississippi Curriculum Framework. Two hundred and ten Mississippi exemplary teachers' five-star board of education members and the state superintendent developed the assessment. Once the committee developed the test, Pearson Publishing Company published it. The final product of this norm-referenced assessment was an assessment aligned with the Mississippi Framework.

The validity and reliability of the MCT2 was determined in October and November of 2002. A committee of teachers throughout Mississippi was formed to establish the validity and reliability of the assessment before it was first administered during the spring of 2001 (MDE: Interpretive Guides for Teachers and Administration, 2006). The assessment showed that the data obtained from the MCT2 on student achievement would represent the true achievement levels of those being tested and similar results would be produced over time. The MCT2 tests scores used to gather data on the reading scores were included in this study.

## **Procedure**

Consent to complete the study was obtained from the school district's superintendent. Upon obtaining consent, the district test coordinators were contacted with a request to allow the researcher the opportunity to retrieve individual Mississippi Curriculum Test, 2<sup>nd</sup> Edition (MCT2) reading achievement test scores for the students that attended the school in 3<sup>rd</sup> grade from 2009-2010 and 4<sup>th</sup> grade from 2010-2011. The district test coordinators were given the option to mail the student lists of scale scores, to email the scores, or to allow the researcher to come to a specific location to pick up the scores personally. The school requested that the researcher pick up the reading achievement scores. The teachers omitted the names of the students and assigned each student an ascending number. Upon receiving the test scores from the schools identified within the study, the researcher entered the information into the Statistical Package for the Social Sciences (SPSS).

Since January 2005, each school in the state of Mississippi was required to have a Three-Tier Instructional Intervention Model and Teacher Support Team (TST) program in effect. Under this model, the teacher support teams met periodically to make sound educational decisions using data driven documentation. Using the data driven documentation, the TST team determined to which tier to assign students based on their test scores, teachers' anecdotal notes on student academic progress, and teachers' progress monitoring notes. Tier 1 consisted of students who received whole group instruction and have developed the academic skills required during regular classroom instruction. These students were not exposed to any interventions. Tier 2 students consisted of students who received whole group instruction and additional intervention 2 to 3 times per week for 15-20 minutes because they are below benchmark in literacy. The TST team frequently monitored students' progress to assess the gains students made along the learning continuum. Tier 3 students consisted of students who received whole-group instruction, additional intervention 2 to 3 times per week, and an additional 30 minutes of intensive intervention with the Response to Intervention (RtI) coordinator.

Once the TST team assigned students to the appropriate reading intervention tier, they grouped the students homogeneously and placed them in one of the four third grade class sections. Two third-grade class sections were labeled Group A and two class sections labeled Group B. Group A represented the group of students who were only exposed to regular classroom instruction and did not receive any interventions (Tier 1). Group B represented the group of students that were exposed to reading interventions and a computer-based adaptive assessment during classroom instruction (Tier 2 and 3). However, the students that the teachers placed in Group B received interventions for varying lengths of time, depending on which tier the teachers assigned them. For example, Tier 2 students received the intervention 2 to 3 times

per week for at least 45 minutes to an hour and Tier 3 students also received intervention 2 to 3 times per week for at least 45 minutes to an hour along with an additional 30 minutes with the RtI coordinator. Therefore, either the students at this rural school were required to receive direct instruction only or direct instruction coupled with the use of the computer-based adaptive assessment three times during the school year to assess student progress prior to taking the MCT2.

The MCT2 reading scores of students who were in the third grade during the 2009-2010 school year at this rural North Mississippi elementary school were collected. First, the 2009-2010 reading achievement test scores were compared to the 2010-2011 reading achievement test scores of the at-risk students (Group B) using a paired samples t-test. Second, the 2010-2011 reading achievement test scores of Group A (regular instruction) vs. Group B (MAP instruction) students were compared and the 2009-2010 reading achievement test scores were used as the control using an ANCOVA test. Third, the 2010-2011 reading achievement test scores of all third grade male students versus female students were compared using an independent samples t-test. Next, the 2010-2011 reading achievement test scores of third grade male students versus female students in Group B were compared using an independent samples t-test. Finally, the 2010-2011 reading achievement test score change of third grade male students versus female students in Group B were compared using an independent samples t-test.

### **Analysis**

The MCT2 reading scores of students who were in the third grade during the 2009-2010 school year at this rural North Mississippi elementary school were collected. The first research question the current study attempted to explore was whether the MAP Program significantly affected the reading achievement test scores of at-risk students. The hypotheses was that there

was a significant difference between the means of the 2009-2010 vs. 2010-2011 reading achievement test scores of at-risk students due to the MAP Program. To explore this, a paired-samples t-test was conducted to determine whether students who received the MAP Program instruction performed significantly better on the current year's MCT2 reading achievement test than they did the previous year. To accomplish this, the 2009-2010 reading achievement test scores were compared to the 2010-2011 reading achievement test scores of the at-risk students (Group B).

The second research question was whether a significant difference existed between the reading achievement test scores of third grade students based on reading instructional methods, controlling for prior achievement. The second hypothesis was that there was evidence of a significant difference between the reading achievement scores of third grade students based on the instructional method. The study utilized an Analysis of Covariance (ANCOVA) to determine whether, controlling for prior achievement, students who received the MAP Program instruction outperformed students who received traditional instruction on the current year's MCT2 reading achievement test. This test was selected to answer the question of whether or not there would be differences in the 2010-11 MCT2 reading achievement test scores between Group A and Group B if both groups had similar MCT2 reading achievement test scores in 2009-10. The 2010-2011 reading achievement test scores of Group A (regular instruction) vs. Group B (MAP Program instruction) students were compared, and the 2009-10 reading achievement test scores were used as the control using an ANCOVA test.

The third research question was whether gender differences existed in reading achievement test scores. The hypothesis was that significant differences existed between male and female student's reading achievement test scores. An independent samples t-test was used to



explore gender differences in MCT2 reading achievement test scores to determine which gender, if any performed better on the reading assessment. To determine this, the 2010-2011 reading achievement test scores of all third grade male students versus female students were compared.

The fourth research question was whether the MAP Program had a differential affect on the reading achievement test scores of at-risk students based on gender. The hypothesis was a significant difference on the affect of the MAP Program on reading achievements test scores of at-risk students based on gender. To examine this, another independent samples t-test was used to explore gender differences in the reading achievement test scores of students receiving the MAP Program instruction. To determine whether at-risk male or female students differed in their reading achievement, the 2010-2011 reading achievement test scores of third grade male students versus female students in Group B were compared.

The final research question was whether the MAP Program had a differential affect in the improvement of the reading achievement test scores of at-risk students based on gender, and if so, was the MAP Program more beneficial for males or females? The hypothesis associated with this research question was that there was a significant difference in the affect the MAP Program had on improving the reading achievement test scores of at-risk students based on gender. To determine whether males or females benefitted more from the intervention, an independent samples t-test was used to explore gender differences in gains in reading achievement. To do this, differences between students' 2009-2010 and 2010-11 MCT2 reading achievement test scores were calculated, and significant differences between males and females were explored. The change in the 2010-2011 reading achievement test scores of third grade male students versus female students in Group B were compared.

## **CHAPTER 4**

### **RESULTS**

This chapter presents the results of the data that examined the effectiveness of a response to intervention (RTI) plan. This study explored the 2009-2010 MCT2 results of 64 students (35 males and 29 females) in a rural Mississippi school district. The RTI plan utilized teacher-directed instruction for Group A (58 students) students and a combination of teacher-directed instruction and computer-based adaptive assessments for Group B (6 students) students on their reading achievement test scores as measured by the Mississippi Curriculum Test 2. The results not only show whether a statistically significant difference existed between the variables used within this study, but also thoroughly explain the data that was collected. Data obtained from the MCT2 tests of 2009-2010 and 2010-2011 were analyzed using SPSS. The data obtained from the assessments were analyzed to determine whether students made growth or progress by using various statistical tests and responding to the following hypotheses:

$H_1$ : There is a significant difference between the means of the 2009-2010 vs. 2010-2011 reading achievement test scores of at-risk students due to the MAP Program. (The 2009-2010 reading achievement test scores were compared to the 2010-2011 reading achievement test scores of the at-risk students (Group B) using a paired samples t-test.)

$H_{01}$ : There is no significant difference between the means of the 2009-2010 vs. 2010-2011 reading achievement test scores of at-risk students due to the MAP Program.

The 2010-2011 MCT2 reading achievement test scores served as the independent variable, while the 2009-2010 scores served as the dependent variable. To examine  $H_1$  and  $H_{01}$ , a

paired samples t-test was used to determine whether a significant difference existed between the means of the 2009-2010 and the 2010-2011 reading achievement test scores of the 6 at-risk students due to the implementation of the MAP Program. In other words, this statistical test was used to examine the scores of students in Group B (remedial group) who received literacy intervention through the MAP Program. Furthermore, the statistical test was used to assess whether the MAP Program assisted at-risk students with improving their reading achievement test scores. A paired samples t-test was utilized because the assessments were paired/performed on the same samples/groups of students. In other words, the comparison was between the same group of students' achievement test scores in a pre- and post-test analysis manner.

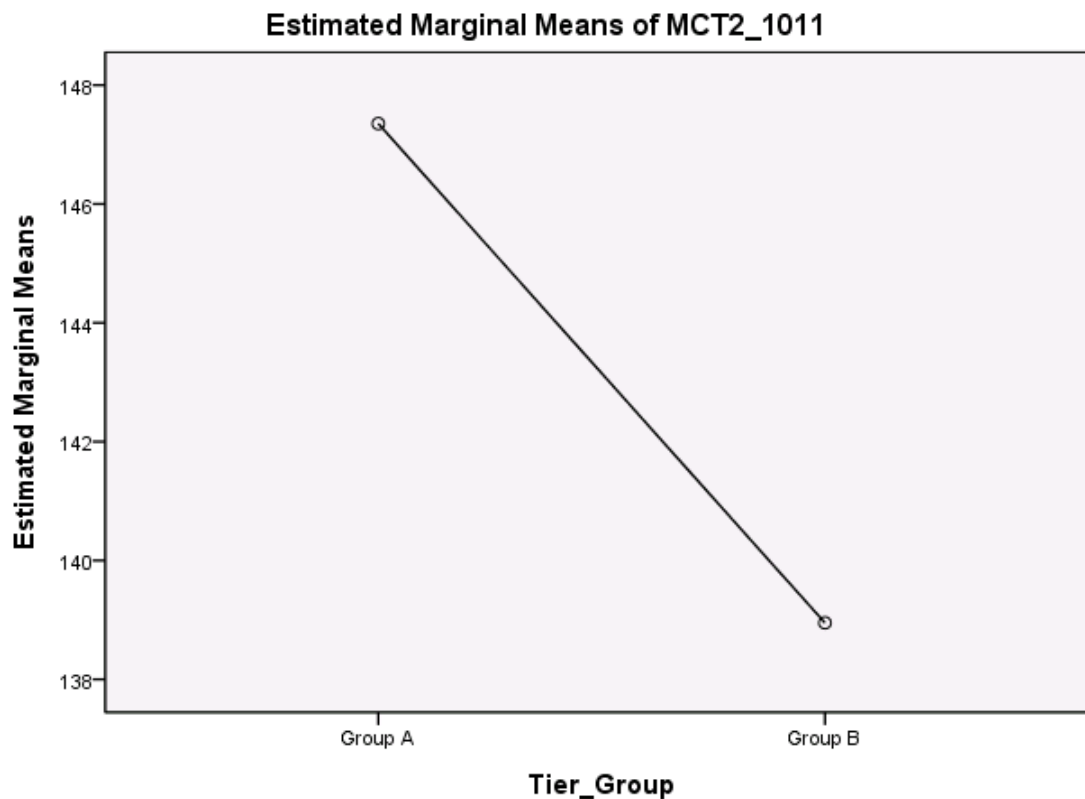
The results of the statistical analysis showed there was no significant difference between the mean reading achievement test scores in 2009-2010 and 2010-2011. There was no statistically significant difference between the 2009-2010 mean test scores ( $M = 135.00$ ) and the 2010-2011 mean test scores ( $M = 136.17$ );  $t(5) = -.296$ ,  $p = .779$ . Therefore, we fail to reject the null hypothesis.

H<sub>2</sub>: There is significant evidence of a significant difference between the mean reading achievement scores of third grade students based on the instructional method. (The 2010-2011 reading achievement test scores of Group A (regular instruction) and Group B (MAP Instruction) students were compared and the 2009-2010 reading achievement test scores were used as a control. An ANCOVA was used for this.)

H<sub>02</sub>: There is no significant evidence of a significant difference between the reading achievement scores of third grade students based on the instructional method.

The reading instructional method served as the independent variable, while the 2010-2011 reading achievement scores were the dependent variable. The covariate was prior

achievement or performance on the 2009-2010 reading achievement tests. To examine  $H_2$  and  $H_{02}$ , an ANCOVA was used to determine if the 2010-2011 reading achievement test scores of Group A (regular instruction) differed from those of Group B (MAP instruction). The results of the statistical analysis indicated that there was no significant difference between Group A and Group B on the MCT2 2010-2011 assessment ( $F(1) = 0.000$ ,  $p = .983$ ). Therefore, we fail to reject the null hypothesis. Figure 1 shows the mean MCT2 2010-2011 for Group A and Group B.



Covariates appearing in the model are evaluated at the following values: MCT2\_0910 = 148.16

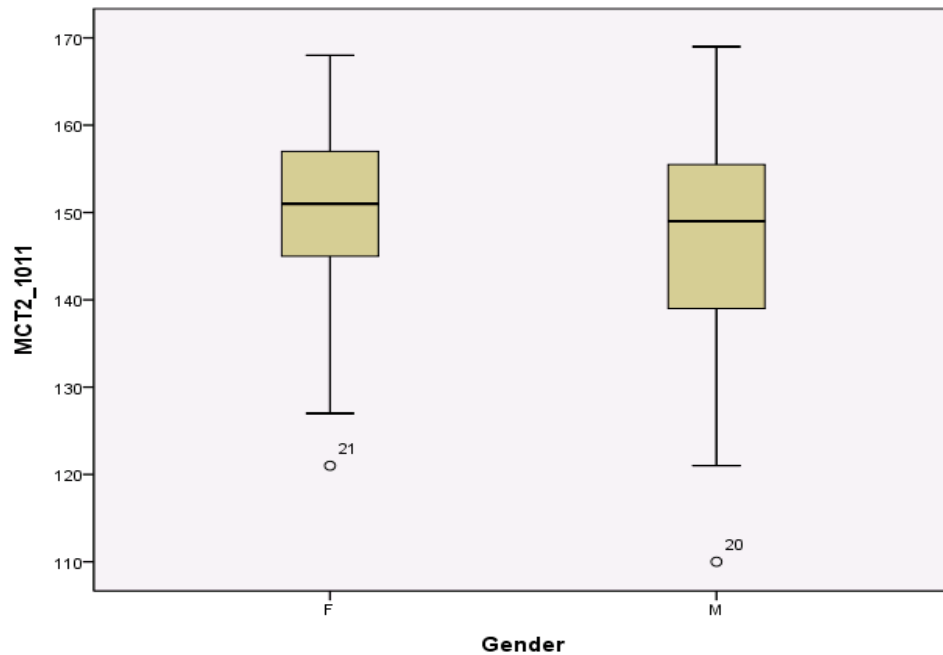
*Figure 1. Tier Group Differences 2010-2011 MCT2 Reading Achievement Tests*

$H_3$ : There is a significant difference between male and female student's reading achievement test scores. (The 2010-2011 reading achievement test scores of all third

grade male students versus female students were compared using an independent samples t-test.)

H<sub>03</sub>: There is no significant difference between male and female student's reading achievement test scores.

Gender served as the independent variable, while the 2010-2011 MCT2 reading achievement test scores served as the dependent variable. Again, there were 35 males and 29 females. To examine H<sub>3</sub> and H<sub>03</sub>, an independent samples t-test was used. The independent samples t-test was used because there are two variables (males vs. females) and one outcome (2010-2011 MCT2 reading achievement test results). In other words, this statistical test was used to determine whether a significant difference existed between how one gender performed in comparison to the other gender on the 2010-2011 MCT2 reading achievement tests. The results of the statistical test in Figure 2 showed that there was no significant difference between male and female students' 2010-2011 Mississippi Curriculum Test 2 reading achievement test scores ( $t(62) = -.720, p = .474$ ). These results indicated that the female students performed slightly better than did the male students ( $M = 148.62$  and  $M = 146.40$ , respectively). However, the difference was not statistically significant, therefore, we fail to reject the null hypothesis.



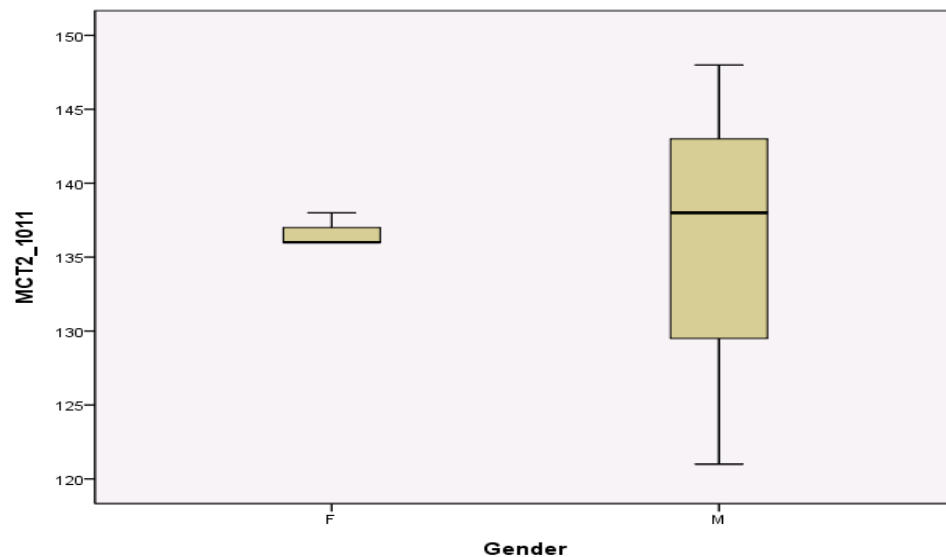
*Figure 2. Gender Differences 2010-2011 MCT2 Reading Achievement Test*

H<sub>4</sub>: There is a significant difference on the affect of the MAP Program on reading achievements test scores of at-risk students based on gender. (The 2010-2011 MCT2 reading achievement test scores of third grade male students versus third grade female students in Group B were compared using an independent samples t-test.)

H<sub>04</sub>: There is not a significant difference on the affect of the MAP Program on reading achievement tests scores of at-risk students based on gender.

Gender served as the independent variable, while performance on the 2010-2011 MCT2 reading achievement test score served as the dependent variable. The MAP Program served as a selection criteria. This group consisted of 3 male and 3 female students who were in the MAP Program. To examine H<sub>4</sub> and H<sub>04</sub>, an independent samples t-test was used to determine whether differences existed between the current year's reading achievement test scores among male and female students. The independent samples t-test was used because there were two variables (males vs. females exposed to the MAP Program) and one outcome (the MCT2 reading

achievement test results). In other words, this statistical test was used to show whether a significant difference existed between how at-risk males and females performed on the 2010-2011 MCT2 reading achievement test after being exposed to the MAP Program. The results of the statistical test in Figure 3 showed that the females did better than the males ( $M = 136.67$  and  $M = 135.67$ , respectively); However the results were not statistically significant ( $t(4) = -.126$ ,  $p = .905$ ). Therefore, we fail to reject the null hypothesis.



*Figure 3. Gender Differences in Group B 2010-2011 MCT2 Reading Achievement Tests*

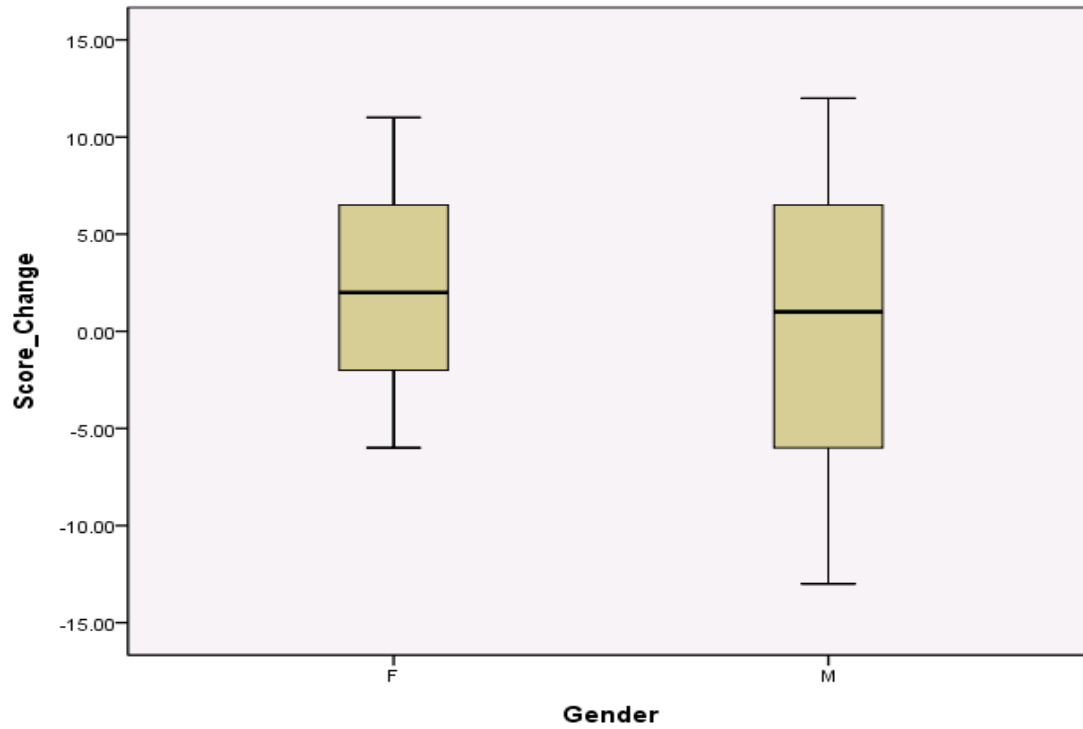
$H_5$ : There is a significant difference in the affect the MAP Program had on improving the reading achievement test scores of at-risk students based on gender. (The 2010-2011 reading achievement test score change of third grade male students versus third grade female students in Group B was examined using an independent samples t-test.)

$H_{05}$ : There is no significant difference in the affect of the MAP Program on improving the reading achievement test scores of at-risk students based on gender.

Gender served as the independent variable, while the score change in the reading achievement test scores (2009-2010 versus 2010-2011) of the students that received the MAP

Program served as the dependent variable. The MAP Program served as a selection criteria. Again, there were 3 male and 3 female students involved in this analysis. To examine  $H_5$  and  $H_{05}$ , an independent samples t-test was used to determine whether a score change in the prior and current year's reading achievement test scores existed between male and female students that received the MAP Program. The independent samples t-test was used because there were two variables (males vs. females exposed to the MAP Program) and one outcome (the score change in the MCT2 reading achievement test results 2009-2010 and 2010-2011). In other words, this statistical test was used to determine whether a significant difference existed between how one gender performed (score change improvement) in comparison to the other gender on the MCT2 reading achievement test after being exposed to the MAP Program during the 2010-2011 school year. The results of the statistical test in Figure 4 showed that the males did not perform any better on the MCT2 assessment this year in comparison to last year ( $M=.0000$ ). However, the females did perform better this year in comparison to last year by 2 points ( $M= 2.333$ ). This means that the females had an average score improvement of 2.33 points. However, the difference in improvement between the males and females test scores was not statistically significant. This indicated that failed to reject the null hypothesis.





*Figure 4. Score Change by Gender 09-10 vs.10-11 on MCT2 Reading Achievement Test*

The next chapter will provide an interpretation of the statistical analyses described above.

## **CHAPTER 5**

### **DISCUSSION**

This chapter provides a conclusion of the study, a discussion of the findings associated with the study, and recommendations for further research in the area of reading achievement.

The purpose of this research study was to investigate whether teacher-directed instruction alone or teacher-directed instruction coupled with the use of a computer based adaptive assessment known as the MAP Program affects third grade students' reading achievement on the state standardized reading assessment. The study consisted of a total of 84 third grade students; however, because inclusion in the study was limited to students who had MCT2 scores for both the 2009-2010 and the 2010-2011 school years, only 64 students remained in the final study. The control group consisted of 58 students who received only teacher-directed instruction and had not been exposed to the MAP Program. The study group also consisted of 6 students (3 male and 3 female) who were exposed to teacher-directed instruction and the MAP Program. The students that participated in this study were located in one rural school in a North Mississippi school district.

#### **Improvement in 2009-2010 vs. 2010-2011 Scores for Remedial Group**

The study attempted to explore the effectiveness of the MAP Program by analyzing whether exposure to the program assisted the at-risk students with improving their reading achievement scores. The reading scale scores of the students that were in third grade during the 2009-2010 school year and fourth grade during the 2010-2011 school year on the Mississippi Curriculum Tests Second Edition (MCT2) reading subtests were used. After an analysis of the

data, the numbers indicated that there was no significant difference between the 2009-2010 mean score and the 2010-2011 mean score. There is a difference of -1.167 between the mean scores. This suggests that, on average, students who received the additional MAP instruction did not make a significant improvement on the MCT2 reading achievement tests than they did the previous year. It is likely that the students did not improve because the school district chose to pilot a research-based computer adaptive program that has not demonstrated its ability to help at-risk readers become proficient. It is also likely that the students that were exposed to the MAP Program required more intervention time than they were allotted.

### **Difference in 2010-2011 Achievement Test Scores of Group A vs. Group B Students**

The study utilized an Analysis of Covariance (ANCOVA) to determine whether, controlling for prior achievement, students who received MAP instruction outperformed students who received traditional instruction on the current year's MCT2 reading achievement test.

The reading scale scores from the Mississippi Curriculum Test 2 for the 2010-2011 school year were used to see if the test scores differed between the students in Group A and Group B using an Analysis of Covariance. After an analysis of the data, the numbers indicated that there was no significant difference between Group A and Group B on the MCT2 2010-2011 reading achievement test. This suggests that MAP instruction did not improve students reading achievement test scores any more than regular, teacher-directed instruction. However, the sample size of students that participated in the MAP Program was quite small. The low number of MAP participants may have contributed to the lack of results.

### **Reading Achievement Test Scores Differences by Gender**

In order to assess gender differences in reading achievement, the 2010-2011 reading achievement test scores of all third grade male and female students were compared. The reading scale scores from the MCT2 for the 2010-2011 school year were used to determine whether a

significant difference existed between how one gender performed in reading compared to the other gender. After analysis of the data, the numbers indicated that there was no significant difference between the males and females on the 2010-2011 MCT2 reading achievement tests. Though the female students performed slightly better than did the males (2.22 points higher), the difference was not statistically significant. This suggests that for this sample of students, females were not better readers than were males.

### **Gender Differences in Reading Achievement Test Scores for MAP students**

Next, the study sought to explore gender differences in the reading achievement test scores of students receiving the MAP instruction. The reading scale scores from the 2010-11 MCT2 were used to explore gender difference between students who received MAP literacy intervention. After an analysis of the data, the numbers indicated that among those students that received MAP instruction, females did better than did males on the 2010-2011 MCT2 reading achievement test scores. However, the difference was not statistically significant. It is likely that gender differences in reading achievement were not statistically significant because the number of students that participated in the MAP Program was small.

### **Change in Reading Achievement Test Scores for MAP Students Based on Gender**

An independent samples t-test was used to explore gender differences in gains in reading achievement for students receiving MAP instruction. To do this, differences between MAP students' 2009-10 and 2010-11 MCT2 reading achievement test scores were calculated, and significant differences between males and females were explored. After the analysis of the data, the numbers indicated that among those that received the MAP Program, females performed better on the current year than they did the previous year by approximately 2 points. Conversely, on average, the males showed no improvement in the reading achievement test scores. While female students' growth was 2 points higher than that of males, the difference was not

statistically significant. This may be due to the fact that there was a small sample size of students that actually participated in the MAP Program.

The next section will describe the limitations that were discovered while conducting the current study and will provide recommendations for addressing these limitations.

### **Limitations and Recommendations for Further Research**

In the current study, there were a number of limitations that surfaced, as well as several recommendations identified to contribute to future research.

**Limitation 1.** One limitation involved in this study was the number of at-risk readers that participated in the MAP Program. The 2009-10 third grade class at this rural school was the only grade level within the school and district selected to pilot the computer based adaptive program. Furthermore, the rural school used in this study consisted of a small population and sample due to the existence of a transient community. Transiency affected the final sample size because it was necessary for the data analysis for the students to have MCT2 reading achievement test scores for both third grade (2009-2010) and fourth grade (2010-11).

**Recommendation 1.** Future studies should involve multiple schools within the school district that are utilizing similar response to intervention plans to improve reading proficiency on the state reading achievement tests.

**Limitation 2.** Another limitation in this study involved not being able to utilize a survey to gather data on how the lack of parental involvement and motivation contributes to poor literacy development and reading proficiency. The surveys that were selected to support this study were not completed by the parent of every child that participated in this study.

**Recommendation 2.** Because each child's parent did not complete the survey, it was impossible to create a scale to analyze the data found within the survey. Future research should explore how the lack of motivation and the lack of parental involvement and support at home

may contribute to poor literacy development and the inability to attain reading proficiency. Each of these variables could be investigated to determine which variable has the greatest impact on reading achievement.

**Limitation 3.** Another limitation in this study involved the varying length of exposure to literacy experiences for at-risk students who participated in the MAP Program. The intervention time to which students were exposed depended on which tier the teachers placed the students in. Tier 2 students were one grade level behind in reading, while tier 3 students were at least 2 grade levels behind. Therefore, Tier 2 students received the intervention 2 to 3 times per week for at least 45 minutes to an hour, and Tier 3 students received an additional 30 minutes with the Response to Intervention coordinator.

**Recommendation 3.** Future research should investigate using a computer-based program that exposes all at-risk readers to the same amount of remediation time. Not only should students have the same amount of remediation time during their literacy experiences, but their literacy experiences should involve the use of a researched-based computer-adaptive program that has been proven to assist at-risk readers in attaining reading proficiency.

**Limitation 4.** The next limitation in this study was that, because this was a pilot program, teacher knowledge of program implementation strategies varied.

**Recommendation 4.** Future studies should be conducted to investigate the differences in student reading scores within the Mississippi School District that utilize trained Response to Intervention Coordinators and Volunteer Tutors as part of their district's plan of action to improve reading proficiency scores on the state reading achievement tests.

**Limitation 5.** Finally, the use of the MAP Program itself may be a limitation. The lack of significant findings in the current study is consistent with prior studies. While the technical

merits and popularity of the MAP Program assessments have been widely referenced in practitioner-oriented journals and teacher magazines, (Ash, 2008; Olson, 2007; Clark, 2006; Woodfield, 2003; Russo, 2002) studies investigating the effects of the MAP Program or other benchmark assessment programs on student outcomes were limited. According to the Regional Educational Laboratory Program, there were two studies conducted on the benchmark assessments found within the MAP Program and its impact on student outcomes. One study was titled, “The Impact of the Measures of Academic Progress on Differentiated Instruction and Student Achievement.” According to Henderson et al. (2007), “the study found no significant differences in achievement between schools that used the quarterly benchmark exams and the schools that did not” (p. 12). There are no other strong experimental or quasi-experimental studies found that investigated the effectiveness of the benchmark assessment or its training on student outcomes. Henderson et al. (2007) point out that:

extensive use of the MAP Program among districts and schools, its lack of an empirical research base, and a projected growth in the number of schools investing in the MAP Program or similar programs calls for further investigation to determine its effectiveness and potential return on investment (p.12 )

Similarly, the results of the current study also point to the ineffectiveness of the computer-based adaptive assessment.

**Recommendation 5.** Future studies should compare traditional, teacher-directed instruction to the MAP Program instruction, as well as other research-based reading intervention programs. This would help determine whether the MAP Program, or other programs, could be effective in improving students’ reading achievement.

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## **List of Appendices**

## **Appendix: A**



## Institutional Review Board Approval



THE UNIVERSITY OF  
MISSISSIPPI

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### Office of Research and Sponsored Programs

The University of Mississippi  
100 Barr Hall  
Post Office Box 907  
University, MS 38677  
(662) 915-7482  
Fax: (662) 915-7577

May 11, 2011

Ms. Tamisha Estes-Lipford  
8360 Olivia Lane  
Southaven, MS 38672

Dr. Bobbie Smothers Jones  
Curriculum and Instruction  
University, MS 38677

Dear Ms. Estes-Lipford and Dr. Smothers Jones:

This is to inform you that your application to conduct research with human participants, ***The Effects of a Response to Intervention Plan on Third Grade At-Risk Readers in a Rural School District as Measured by the Mississippi Curriculum Test (Protocol 11-254)***, has been approved as Exempt under 45 CFR 46.101(b)(1).

Please remember that all of The University of Mississippi's human participant research activities, regardless of whether the research is subject to federal regulations, must be guided by the ethical principles in *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*.

It is especially important for you to keep these points in mind:

- You must protect the rights and welfare of human research participants.
- Any changes to your approved protocol must be reviewed and approved before initiating those changes.
- You must report promptly to the IRB any injuries or other unanticipated problems involving risks to participants or others.

If you have any questions, please feel free to call me at (662) 915-7482.

Sincerely,

Diane W. Lindley  
Coordinator, Institutional Review Board

## **Appendix: B**

## Confirmation Letter to Superintendent

August 3, 2011

Dear Superintendent,

My name is Tamisha Estes-Lipford and I am a teacher with the Memphis City School District. I am also a doctoral candidate in the Curriculum and Instruction program at the University of Mississippi in Oxford, MS. I am writing this letter in reference to our phone conversation on August 2, 2011 concerning your district's participation in my research study by providing me with 2009-2011 assessment data from your elementary school. As a reminder, the specific area of my study is concerned with whether there is a difference in reading scale scores of a rural school that utilizes a computer based adaptive assessment as a part of its response to intervention plan to improve the reading proficiency scores of students on the state standardized assessment.

As I explained to you in our phone conversation, my study only requires me to retrieve assessment data on your elementary school. As per your approval, I have contacted your District Testing Coordinator requesting 2009-2011 reading assessment data. I have also notified your school principal(s) that in the event the District Test Coordinator was unable to provide the data, the school test coordinator would be contacted to provide such data. The district test coordinator and/or the school test coordinator will provide me with the reading scale scores of students either electronically using an excel spreadsheet or a hard copy with student names deleted. The district test coordinator and school test coordinator will assign ascending numbers to the student scores before the data is submitted to me. All student information is anonymous.

This study presents no risk to you or any staff member in the district. All student information is anonymous as no names are used and no school(s) will be identified by name in the dissertation. Upon completion of the study, a copy of the study findings will be mailed to you for your review.

Thank you again for your assistance, cooperation, and participation in this research study, which may provide school leaders with valuable information concerning the utilization of a computer-based adaptive assessment as a part of its response to intervention plan to improve the reading proficiency scores of students on the state standardized assessment. If you have questions that we did not cover previously, please feel free to contact:

Tamisha Estes-Lipford  
8360 Olivia Lane  
Southaven, MS 38672  
Telephone: (662)342-5300

**or**

Dr. Bobbie Smothers-Jones, Ed.D.  
Curriculum and Instruction Department  
University of Mississippi Desoto Center  
5197 W. E. Ross Parkway  
Southaven, MS 38671

Sincerely,

Tamisha Estes-Lipford  
Classroom Teacher

Memphis City Schools  
Doctoral Candidate, University of Mississippi

## **Appendix: C**

## Confirmation Letter to School Principal

August 3, 2011

Dear Principal,

My name is Tamisha Estes-Lipford and I am a teacher with the Memphis City School District. I am also a doctoral candidate in the Curriculum and Instruction program at the University of Mississippi in Oxford, MS. I am writing this letter in reference to our phone conversation on August 2, 2011 concerning your district's participation in my research study by providing me with 2009-2011 assessment data from your elementary school. As a reminder, the specific area of my study is concerned with whether there is a difference in reading scale scores of a rural school that utilizes a computer based adaptive assessment as a part of its response to intervention plan to improve the reading proficiency scores of students on the state standardized assessment.

As I explained to you in our phone conversation, my study only requires me to retrieve assessment data on your elementary school. As per your approval, I have contacted your District Testing Coordinator requesting 2009-2011 reading assessment data. I have also notified your school principal(s) that in the event the District Test Coordinator was unable to provide the data, the school test coordinator would be contacted to provide such data. The district test coordinator and/or the school test coordinator will provide me with the reading scale scores of students either electronically using an excel spreadsheet or a hard copy with student names deleted. The district test coordinator and school test coordinator will assign ascending numbers to the student scores before the data is submitted to me. All student information is anonymous.

This study presents no risk to you or any staff member in the district. All student information is anonymous as no names are used and no school(s) will be identified by name in the dissertation. Upon completion of the study, a copy of the study findings will be mailed to you for your review.

Thank you again for your assistance, cooperation, and participation in this research study, which may provide school leaders with valuable information concerning the utilization of a computer-based adaptive assessment as a part of its response to intervention plan to improve the reading proficiency scores of students on the state standardized assessment. If you have questions that we did not cover previously, please feel free to contact:

Tamisha Estes-Lipford  
8360 Olivia Lane  
Southaven, MS 38672  
Telephone: (662)342-5300

**or**

Dr. Bobbie Smothers-Jones, Ed.D.  
Curriculum and Instruction Department  
University of Mississippi Desoto Center  
5197 W. E. Ross Parkway  
Southaven, MS 38671

Sincerely,

Tamisha Estes-Lipford  
Classroom Teacher

Memphis City Schools  
Doctoral Candidate, University of Mississippi

## **Appendix: D**



CONFIRMATION LETTER FROM THE PRINCIPAL



**Robinsonville Elementary**  
Wilner Bolden III, Ed.S., Principal  
Alisha Leflore, M.Ed., Lead Teacher

Tyra Edwards Ed.S., Counselor  
Shelly Wilkins, Secretary  
Coretta Joiner, Secretary

7743 Old Highway 61 North • Robinsonville, MS • 38664 Phones: 662-357-1077 • Fax: 662-357-1087 • Email: [boldenv@tunicak12.org](mailto:boldenv@tunicak12.org)

April 13, 2010

Dear Tamisha Estes:

I am granting you permission to perform research at Robinsonville Elementary in Tunica County. I do ask that our school name not be used if this data is shared with the public. Students and teachers names are to remain confidential. Please do forward the data you have collected to any consulting group. I am requiring the data collected only be used for completing your dissertation.

Educationally,

A handwritten signature in black ink, appearing to read "Wilner Bolden III", is written over a horizontal line.

Wilner Bolden III, Ed.S.  
Principal

## **Appendix: E**

Confirmation Letter to District Test Coordinator and School Test Coordinator

August 3, 2011

Dear District Test Coordinator and/or School Test Coordinator,

My name is Tamisha Estes-Lipford and I am a classroom teacher in the Memphis City school district. I am also a doctoral candidate in the Curriculum and Instruction program at the University of Mississippi in Oxford, MS. I am writing this letter in reference to our phone conversation on August 2, 2011 concerning your district's participation in my research study by providing me with 2009-2011 assessment data from your elementary school. Your superintendent and principal have graciously provided me the opportunity to retrieve assessment data from your school. As a reminder, the specific area of my study is concerned with whether there is a difference in reading scale scores of a rural school that utilizes a computer based adaptive assessment as a part of its response to intervention plan to improve the reading proficiency scores of students on the state standardized assessment.

As I explained to you in our phone conversation, my study only requires me to retrieve reading assessment data on your elementary school using the results of the MCT2. Your role as district test coordinator or school test coordinator will be to provide me with the reading scale scores of students either electronically using an excel spreadsheet or a hard copy with student names deleted. Please assign ascending numbers to the student scores before the data is submitted to me. All student information must remain anonymous.

This study presents no risk to you or any staff member in the district. All student information is anonymous as no names are used and no school(s) will be identified by name in the dissertation. Upon completion of the study, a copy of the study findings will be mailed to you for your review.

Thank you again for your assistance, cooperation, and participation in this research study, which may provide school leaders with valuable information concerning the utilization of a computer-based adaptive assessment as a part of its response to intervention plan to improve the reading proficiency scores of students on the state standardized assessment. If you have questions that we did not cover previously, please feel free to contact:

Tamisha Estes-Lipford  
8360 Olivia Lane  
Southaven, MS 38672  
Telephone: (662)342-5300

**or**

Dr. Bobbie Smothers-Jones, Ed.D.  
Curriculum and Instruction Department  
University of Mississippi Desoto Center  
5197 W. E. Ross Parkway  
Southaven, MS 38671

Sincerely,

Tamisha Estes-Lipford  
Classroom Teacher  
Memphis City Schools  
Doctoral Candidate, University of Mississippi

## **Appendix: F**

## Letter of Receipt of Information

September 2, 2011

Dear District Test Coordinator:

I want to thank you for honoring my request to retrieve student reading assessment data from students at your elementary school. All of the data was submitted properly and in a timely manner using the excel spreadsheet. I appreciate you also ensuring that student information was handled anonymously by providing me the data using numbers assigned in ascending order. Your superintendent and principal will receive a copy of this letter confirming your participation in my research study on facilitating coaches.

I know your time was valuable and I appreciate your assistance with this task. Again, I want to thank you for your work toward helping me achieve my academic goal. Have a great second semester. If you have any further questions pertaining to this dissertation, please contact:

Tamisha Estes-Lipford  
8360 Olivia Lane  
Southaven, MS 38672  
Telephone: (662)342-5300

**or**

Dr. Bobbie Smothers-Jones, Ed.D.  
Curriculum and Instruction Department  
University of Mississippi Desoto Center  
5197 W. E. Ross Parkway  
Southaven, MS 38671

Sincerely,

Tamisha Estes-Lipford  
Classroom Teacher  
Memphis City Schools  
Doctoral Candidate, University of Mississippi

Cc: District Superintendent  
Building Principal

## **VITA**

Tamisha LaShon Estes-Lipford was born in Memphis, Tennessee on June 24, 1974. She graduated from Central High School in May 1992. Upon graduating from high school, Tamisha attended Austin Peay State University and transferred to the University of Memphis August 1994. She received a Bachelors of Science Degree in Biology from the University of Memphis December 1997. In June 2000, she entered Freed-Hardeman University and received a Masters of Arts Degree in Education in Curriculum and Instruction December 2001. In February 2005, Tamisha was accepted into the Specialist Degree Program in Administration Supervision at Union University. In August 2006, she graduated with a 4.0 and obtained her licensure in School Administration. In June 2008, she entered the University of Mississippi, Ole Miss Doctorate of Education Degree Program in Elementary Education. In December 2011, Tamisha graduated and received her Doctorate of Education degree.

Tamisha is presently employed in the Memphis City Schools school district as a 6<sup>th</sup> grade language arts teacher. Prior to her present employment, she worked as a 1<sup>st</sup> grade teacher and 6<sup>th</sup> grade science teacher. Tamisha holds an educator and administrator license in Tennessee.

Tamisha lives in Southaven, Mississippi with her husband, Kevin.